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ABSTRACT

A program entitled Project COPS (Career Oriented Peer Tutoring System) is a comprehensive peer tutoring and advisement approach that was undertaken to improve student retention at Middlesex County College in Edison, NJ. The principal goal of the project was to reach potentially unsuccessful entering freshmen students and to offer them scholastic remediation and vocational information. During the study, successful second-year students were identifed, hired, and trained as tutors. A total of 220 students in 72 courses were tutored. After analyzing information concerning the project that was provided by tutors, tutees, and school faculty as well as student retention and grade point average data, the researchers concluded that the utilization of successful students as peer tutors is a cost-effective, practical method for combatting the student dropout problem. (MN)

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ED230781

# FINAL REPORT

# OF

# PROJECT C.O.P.S.

# PHASE I

1981-82

Middlesex County College

Edison, New Jersey 08818

(201) 548-6000

Project Director

Ellen S. Thomas

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
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TABLE OF CONTENTS


| | Page |
|---|---|
| Disclaimer | i |
| Abstract | ii |
| Acknowledgements | iii |
| Text | 1 |
| Introduction | 1 |
| Problem | 1 |
| Objectives | 1 |
| Related Research | 2 |
| Body of Report | 5 |
| Procedures Used | 5 |
| Findings | 8 |
| Interpretation of Findings | 11 |
| Graphs and Charts | 13 |
| Dissemination Activities Planned and/or Implemented | 44 |
| Strategies or Activities Employed to Eliminate Sex Bias and Sex Role Stereotyping | 44 |
| Summary | 45 |
| Conclusions and Recommendations | 45 |
| Supplementary Pages | 47 |
| Bibliography | 47 |
| Appendix | 48 |

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Project Duration: _____

_____

The Contractors undertaking this project were encouraged to express fully their judgments in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official funding agency positions or policies.

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## ABSTRACT

### DESCRIPTION OF PROJECT

(Use this sheet and no more than one other to type in single-spaced form a statement of project objectives, procedures that were followed, state and local priorities emphasized and the expected contribution of the project to vocational education.)

Project COPS was a comprehensive peer tutoring and advisement approach to improving student retention. Reaching the potentially unsuccessful entering Freshman student and offering scholastic remediation and vocational information was the principal goal. Identifying, hiring and training successful second-year students was an on-going procedure with workshops and counseling information part of the tutors' orientation. Training was conducted by the Project Director, faculty and counseling staff.

Tutoring was arranged in either of two methods: by appointment with the tutor contacting the tutee to arrange a convenient schedule and a drop-in basis. Extensive drop-in hours were publicized, and students came to the Tutoring Center according to their needs.

Information concerning the project was collected from tutors, tutees and faculty. Retention and Grade Point Average data were correlated and the results graphed for easy reference. The evidence shows that positive outcomes resulted.

The findings are a useful indicator of the need for intervention to counteract the heavy loss of human potential to the community by attrition of high-risk students at community colleges. Utilization of one of the college communities best resources, the successful student, is a cost effective, practical method for combating the problem.

ACKNOWLEDGEMENTS

I would like to thank the following people who contributed so much to the development and evaluation of this project:

Dr. Madan Capoor

Mr. Larry Cohen

Mr. Thomas Gambino

Ms. Dorothy E. Loper

Dean David Tyrrell

TEXT

A. Introduction

1. Problem

The complex problem of student retention at an open-access institution such as Middlesex County College needs continued and innovative investigation. The tremendous loss to society when undereducated, unemployable adults spill into the community after too brief a contact with vocational and academic opportunities is immeasurable.

Typically, Middlesex County College's attrition problem is such that nearly 60% of new students leave by the end of their third semester. Comparing these figures with the extremely high success rate of the school's graduates who enter the business community or continue their education elsewhere emphasizes the extreme need for intervention as soon as possible after a student enters college.

The Student Retention Committee Report produced at Middlesex County College in 1980 indicated the path intervention should follow. Students with scholastic potential often lack confidence in their role as a student. The study indicated that only 12% of those leaving the school initially left due to performance dismissals. Others tended to "walk away" from their college experience for a variety of reasons. Personal tutorial assistance and peer advisement seem obvious priorities.

2. Objectives

In order to reduce attrition and improve grades received at the end of a semester, the project aimed to bring together successful second year career-oriented students and high-risk incoming freshmen.

Intervention by tutors in scholastic areas was an important goal as so many new students perform poorly on the New Jersey College Basic Skills Test administered soon after they are admitted to the school. They are almost programmed for failure right from the start. Although the College offers a number of services to help these students, an innovative approach was to be tried with this program.

Establishing rapport between highly motivated seniors who are at ease with the "system" and freshmen who are bewildered by the complexities of a large College was another objective of the project. Feelings of alienation, poor communication skills, lack of direction and a sense of being a number rather than an individual were areas of stress that positive contact with peers could alleviate.

Successful role-model identification would also serve to enhance the career awareness of incoming freshmen: many of whom have no real goals either academic or vocational. As the seniors move toward graduation, seeking employment or continued schooling, the new students could become aware of the process and benefit from this exposure.

Developing a cadre of trained student peer tutor/advisors would be vital to the success of the program. Students would be trained to be an effective supplement to the existing faculty advisement system and would work closely with the counseling staff.

A subsidiary aim of the project would be to afford the tutor/advisor a unique opportunity to improve their interpersonal skills, review their own academic areas and to reaffirm their own career goals through discussion with others.

3. Related Research

Peer-tutoring combined with positive role-model identification has long been an area in need of exploration. In Bruffee's comprehensive report, "The Brooklyn Plan", he cites that research emphasizes that:

> The role which peer-tutoring can play in higher education is one of those specific areas which has yet to be fully explored.[1]

Addressing the student retention problem has also been an area of concern at Middlesex County College. The Student Retention Committee Report issued in 1980[2] unearthed some primary causes of attrition to be the inherent characteristics of the new students: poor goal orientation, low basic skills, lack of student involvement, and poor institutional "fit".

These conditions need a concentrated and practical approach to effect change. The committee discovered a strong need for more personal contact between students, faculty and staff. To help meet the needs of these potential drop-outs, efforts to improve their "fit" into the college environment were necessary. The incorporation of career information into increased contact seemed an obvious area for exploration.

Data accumulated from the Project COPTER (Career-Oriented Peer Tutoring Educational Research Grant) at Middlesex County College[3] during the 190-81 academic year showed positive trends in grade improvement and reduced attrition levels among those students receiving matched peer tutoring. Pertinent to this investigation at Middlesex County College is Bruffee's discussion of the unexpected results which emerged from students involved in the Brooklyn Plan.

> Given the opportunity to talk with sympathetic peers, these same students seemed to discover knowledge they did not know they had.[4]

[1]Kenneth A. Bruffee, "The Brooklyn Plan: Attaining Intellectual Growth Through Peer-Group Tutoring", Liberal Education, 1978, Vol. 64, pp. 447-48.

[2]Retention: An Inductive Study of Representative Student Groups at Middlesex County College, Study Retention Committee, Middlesex County College, Fall, 1980.

[3]Project COPTER Final Report, New Jersey Department of Education, Div. of Vocational Education & Career Preparation, VEA Sub Part III Research Grant, Middlesex County College, 1980-81.

[4]Bruffee, op. cit., p. 451.

The crucial word seems to be "sympathetic". A sharing of vocational information, sympathy and advisement are all vital ingredients to the success of high-risk students.

Research emphasizes the many variables affecting attrition and failure. Remediation and peer contact appear to be a practical method of addressing some of these problems: the poor self-image and low expectation of many students at a community college. This is a practical approach because of the tremendous human resource available: the successful career-oriented student, often overlooked in the search for solutions to the retention problem.

B. Body of Report

1. Procedures Used

To insure faculty cooperation and college-wide understanding of Project C.O.P.S., the Project Coordinator scheduled meetings with academic deans, department chairpersons and individual faculty members. The grant's objectives were explained and emphasis placed on the importance of a strong working relationship between all involved: faculty, tutors, tutees, staff and project coordinator. A comprehensive referral system was established with emphasis on positive recommendations of the service to the freshman class.

Publicity was developed in a variety of ways. Posters were designed and strategically placed on campus. Both an article and an advertisement were placed in the College newspaper explaining the program and soliciting qualified tutors. The College radio station also cooperated with free advertisement. Faculty members were continually reminded to refer students to the Tutoring Center.

To create a successful tutoring/advisement service, a broad representation of the school population needed to be hired. An attempt was made to employ second year students from all curricula so that tutees could work with appropriate role-models. Finding applicants was a continuous process. Advertisement, faculty referral lists, honor society rosters were all employed to produce a file of potential tutors. These prospects were invited to apply, their scholastic records were reviewed and references were checked. Lengthy interviews were conducted. The scholastic criteria was a 3.0 or higher cumulative average. A few seniors with slightly lower averages were eventually hired to fit a specific need and to see if the benefit to them would prove positive.

During the course of the year fifty-two tutors were hired and trained, but mid-year graduation and various personal reasons caused a number of tutors to fall away from the program. Usually thirty tutors were active at any given time during the grant's September-June time span.

All the tutors took part in an extensive two-phase training program. Phase One was conducted by the Project Coordinator and Phase Two consisted of a workshop developed by the Counseling Department.

Training included information and discussion on the goals and objectives of the grant. The need for confidentiality, accurate record keeping and reliability were stressed. Tutors were told what would be expected of them: bookkeeping and payroll information was given. Methods of contacting tutees, linking with faculty, referral to counseling if necessary and the boundaries of their roles were discussed. Great emphasis was placed on the need for patience and on the tutor's role as a support person, not as the teacher or professional counselor.

The workshop created by the Counseling Department for the project involved extensive role-playing to make tutors aware of the variety of situations that might arise, methods of putting students at ease, how to reach out, how to spot serious problems and a broad panoply of advisement skills.

Training continued periodically throughout the year. Tutors met individually and in groups with the Project Coordinator to discuss problems and to develop new procedures. Academic workshops were held by members of the faculty to address particular problem areas.

Establishing contact between tutors and tutees in a minimum time period was of prime importance to the success of the program. Prospective tutees discussed their needs with the Project Coordinator, who then forwarded the information to an appropriate tutor: the tutor made the personal contact to establish a meeting, usually by telephone. Appointments were made for one, two, or on occasion three times a week. Usually sessions were one-on-one or small groups of students with similar needs. The Tutoring Center was used most of the time, although occasional tutoring took place in the Computer Center, Library or Health Technology Building.

A vital aspect of the program was to continue contact with a student once the first meeting was completed. Frequent telephone and written communication was encouraged. Emphasis was on positive reinforcement and encouragement, especially when tutees failed to keep appointments.

Each initial contact was documented by a questionnaire and subsequent meetings were noted by the use of a comment form the tutor filled out and filed in the Tutoring Center. Continual contact between all involved helped track progress and alleviate problems.

Students eligible to participate in this program were defined in the grant proposal as potentially unsuccessful students. Using the New Jersey College Basic Skills Test scores, English Language Skills Placement Tests, non-traditional status and faculty/staff referrals, freshmen were invited to receive free peer/tutoring. Tutees were matched with tutors by curriculum or course interest with every effort made to provide the tutees with an opportunity to make a positive contact with a successful role-model. Over 250 students received some help during the 1981-82 school year.

To accommodate those students too hesitant to commit to long-term tutoring, a "drop-in" schedule was established. Set times were posted when tutors would be available on an informal basis to assist any freshmen who wanted help for a short period. Over one hundred students made use of this service after it was established during the second semester.

The Tutoring Center housed a collection of source material for student use: books, vocabulary lists, common math problems, study guides, college catalogs, etc. The forms, applications and timesheets used were housed in the Center along with a large display of College information and services for the students' perusal. By having the tutors familiar with the College activities and information displayed, freshmen were encouraged to take a more active part in the College community.

2. Findings

a. Role-Modeling

One aspect of this study was concerned with the feasibility of establishing rapport between tutors and tutees: to enhance role-model identification between successful and low self-image individuals. A great deal of anecdotal data was collected to learn if this kind of positive relationship took place: the exchange of career and goal-oriented information along with confidence-building and a gain in familiarity with the school.

Details of each initial contact between tutors and tutees were collected by use of a questionnaire (see Appendix). Further information was gained by confidential report forms completed on a regular basis by the tutors (Appendix). These detailed commentaries showed that discussion of curriculum and career goals was commonplace and concurrent with scholastic remediation during tutoring sessions. Typical comments from tutors were: "discussed courses", "discussed school", "talked about study habits".

In addition, tutees were asked for their perspective of the program and their tutors. Two of the questions asked were:

1. Has tutoring been helpful in any of the following areas?

    a. understanding class work
    b. answering questions about your curriculum and the school
    c. preparing for tests
    d. helping to establish self-confidence
    e. explaining broad principles
    f. other

Eighty-six percent of the respondants checked a, b, d, and e: an indication of the combined tutoring/advisement process involved.

2. How did you relate to your tutor?

    a. personally, as a friend
    b. strictly in a student/tutor relationship

Ninety-two percent answering identified "a" as the relationship prevailing in the tutoring setting. Rapport seems to have been established.

b. Population

Two hundred and twenty students received help in the Tutoring Center during the academic year. Seventy-two courses were tutored. Math related subjects far exceeded all other areas in numbers of students assisted: seventy-six percent of all remediation was requested in five courses:

Basic Mathematics (MAT 010)
Developmental Mathematics I (MAT 017)
Developmental Mathematics II (MAT 018)
Business Mathematics (BUS 103)
Principles of Accounting I (ACC 103)

This emphasis necessitated increased hiring of math and accounting tutors and a closer interaction with the Math and Business Division faculty for information on how best to deal with remediation in those areas.

Statistics involving age and sex of participants were collected. The total number of males requesting help (100) constituted forty-five percent of the total and was slightly lower than the number of females using the Center, (120) which was fifty-five percent. Compared to the total freshman population (1980-81 full-time students), this closely corresponded to the schools' population breakdown: forty-eight percent male, fifty-two percent female.

Tutoring Center usage was evaluated according to age groups to see if Center use reflected school population. Most students seeking help were under twenty years of age (seventy-six percent). Those between twenty and twenty-four years of age comprised two percent of the total and those over twenty-five made up twenty-two percent. Comparing these figures to the (1980-81) school population showed a close correlation in the under twenty years' group, seventy-five percent of school, but lesser use in the twenty to twenty-four group which were eighteen percent of the total freshman class. Interestingly, only seven percent of the (1980-81) full-time freshman group

were over twenty-five years of age, but twenty-two percent of this age group sought remedial help during the academic year. There is insufficient data to draw conclusions for this heavy use by non-traditional students, except to broadly infer that mature students tended to seek help more frequently than younger students in relation to their representation in the total school population.

c. Performance Results

Class performance was measured and compared by use of grade results and passing rate: tutored students compared to entire course enrollment. Using the College's grade analysis charts, the number of A's, B's, C's, D's, F's, W's, WP's, WF's, N's, I's and X's were compared to the tutee's results. The evidence points to a relationship between tutoring, good grades and passing (see graphs).

The effect of tutoring seems positive as indicated by the passing vs. failing rate in the fall semester. In every course but Business Math and Developmental Math I the percent of tutored students passing the course exceeded the passing rate of the total enrollment. When comparing the passing rates of the spring semester, seven out of the twelve courses tutored had a higher passing rate amongst the tutored students. Of those courses showing a lower pass rate, SOC 121, CHM 010, MAT 111 and MAT 129 had only a minor variation with PHY 115 the only course showing a great disparity between tutored and total class figures.

d. In-Class Performance

Faculty views on class performance were scrutinized in this study. All faculty members were queried at the end of each semester concerning their students who had received some tutoring help in the Center. They were asked if they thought students benefited from tutoring. Of the 141 responses to the survey, fifty-eight percent gave a positive answer: tutoring was helpful. Twenty-six percent felt unable to make an evaluation. Twelve percent could not measure any benefit and four percent felt that more tutoring help was needed than had been received.

3. Interpretation of Findings

The information provided by the project indicates trends and the need for continued exploration. The anecdotal information accumulated addressed the questions: Could tutors be trained to disseminate information about curricula, campus activities and services and interact in a non-threatening supportive fashion with their peers, and could positive role-model identification be provided by successful students to potentially non-successful peers?

Interpretation of the reports, personal interviews and questionnaires was somewhat subjective. But responses clearly reflected positive reactions on the part of both tutors and tutees. Tutors reported that their experience had been worthwhile: a chance to review course content and an enjoyable opportunity to help others. Tutees reported their gratitude for the service and expressed their need for clarification in many areas, both academic and school related. Their comments showed a strong wish to interact and learn from their peers.

The statistical findings support the validity of having an established peer-tutoring/advisement program at a community college. The higher grades (Figures #3 and #4) and increased passing rate (Figures #1 and #2) in most courses is measurable proof that the peer contact was beneficial and one feasible method of addressing the common problem of high attrition at the two-year, vocationally oriented school.

FALL 1981 COURSES

Comparison of Passing Rates:
Tutored/Total Course Enrollment

| Courses | % Tutored Students Passed | % Total Enrollment Passed |
|---|---|---|
| 1. Principles of Accounting I (ACC 103) | 85.7% | 48.8% |
| 2. Business Mathematics (BUS 103) | 42.8% | 52.7% |
| 3. Introduction to Education (EDU 121) | 100 % | 75.4% |
| 4. Circuits I (ELT 101) | 100 % | 52 % |
| 5. Writing Skills for College (ENG 010) | 100 % | 80.2% |
| 6. English as a Second Language (ESL 012) | 100 % | 74.5% |
| 7. English as a Second Language (ESL 013) | 100 % | 60.4% |
| 8. Developmental Mathematics I (MAT 017) | 40 % | 60 % |
| 9. Developmental Mathematics II (MAT 018) | 75 % | 42.8% |
| 10. College Algebra and Trigonometry (MAT 111) | 66.6% | 51.4% |
| 11. Engineering Graphics (MEC 121) | 66.6% | 63.8% |

SPRING 1982 COURSES

Comparison of Passing Rates:
Tutored/Total Course Enrollment

| Courses | % Tutored Students Passed | % Total Enrollment Passed |
|---|---|---|
| 1. Principles of Acccunting I (ACC 103) | 75.2% | 50.6% |
| 2. Principles of Accounting II (ACC 104) | 70 % | 68.7% |
| 3. Business Organization and Management (BUS 101) | 100 % | 62.7% |
| 4. Basic Chemistry (CHM 010) | 60 % | 66.3% |
| 5. Data Structures (CSC 114) | 75 % | 62.4% |
| 6. Writing Skills for College (ENG 010) | 75 % | 50.2% |
| 7. Developmental Mathematics I (MAT 017) | 63.6% | 59.5% |
| 8. Developmental Mathematics II (MAT 018) | 63.6% | 58.8% |
| 9. College Algebra and Trigonometry (MAT 111) | 60 % | 61.6% |
| 10. Precalculus (MAT 129) | 62.5% | 63.1% |
| 11. College Physics I (PHY 115) | 25 % | 52.1% |
| 12. Introduction to Sociology I (SOC 121) | 72.2% | 75 % |

Comparison of all students starting and completing
to tutored students starting and completing.

FALL 1981

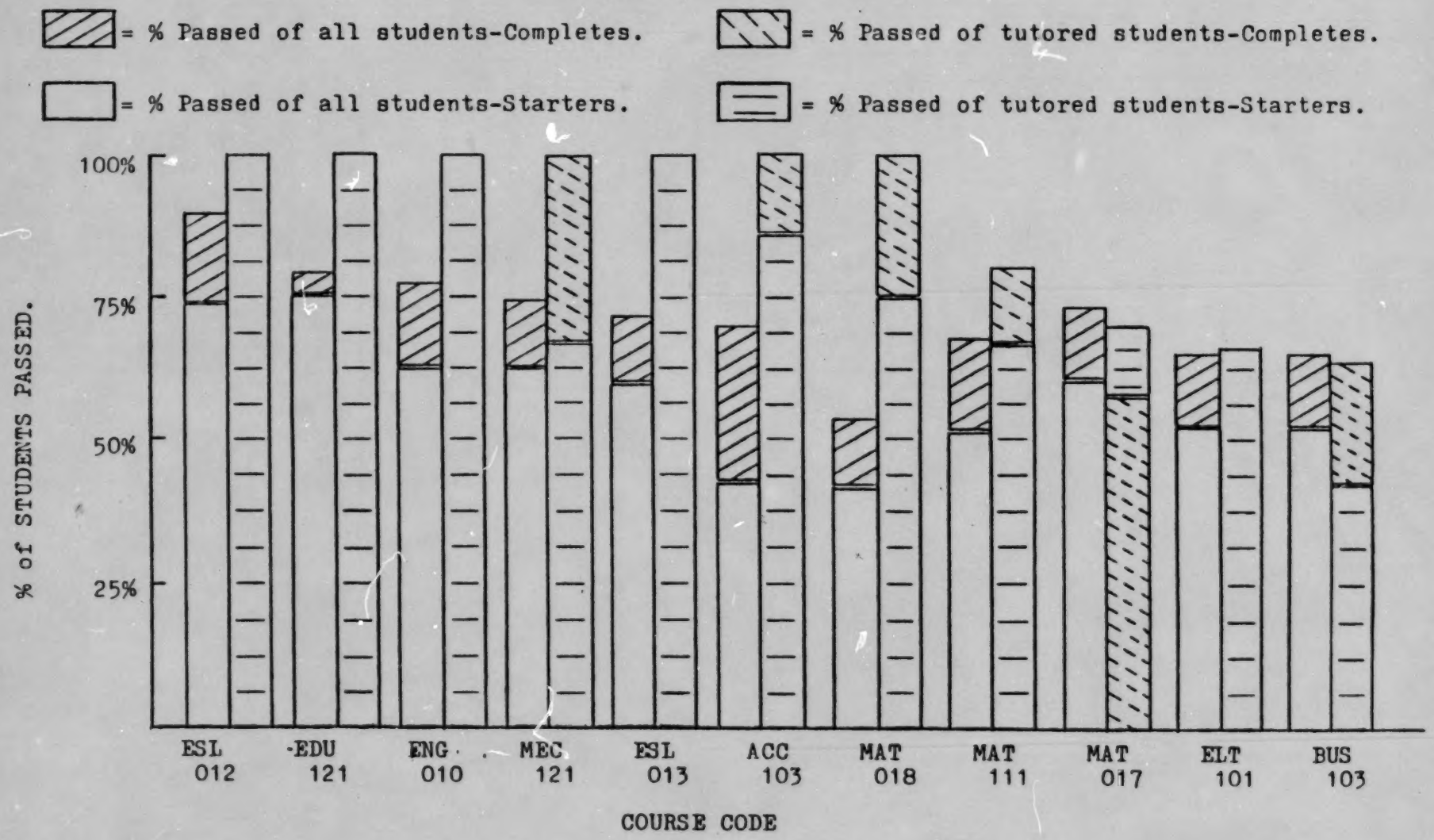


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FIGURE # 1.

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Comparison of all students starting and completing
to tutored students starting and completing.

SPRING 1982

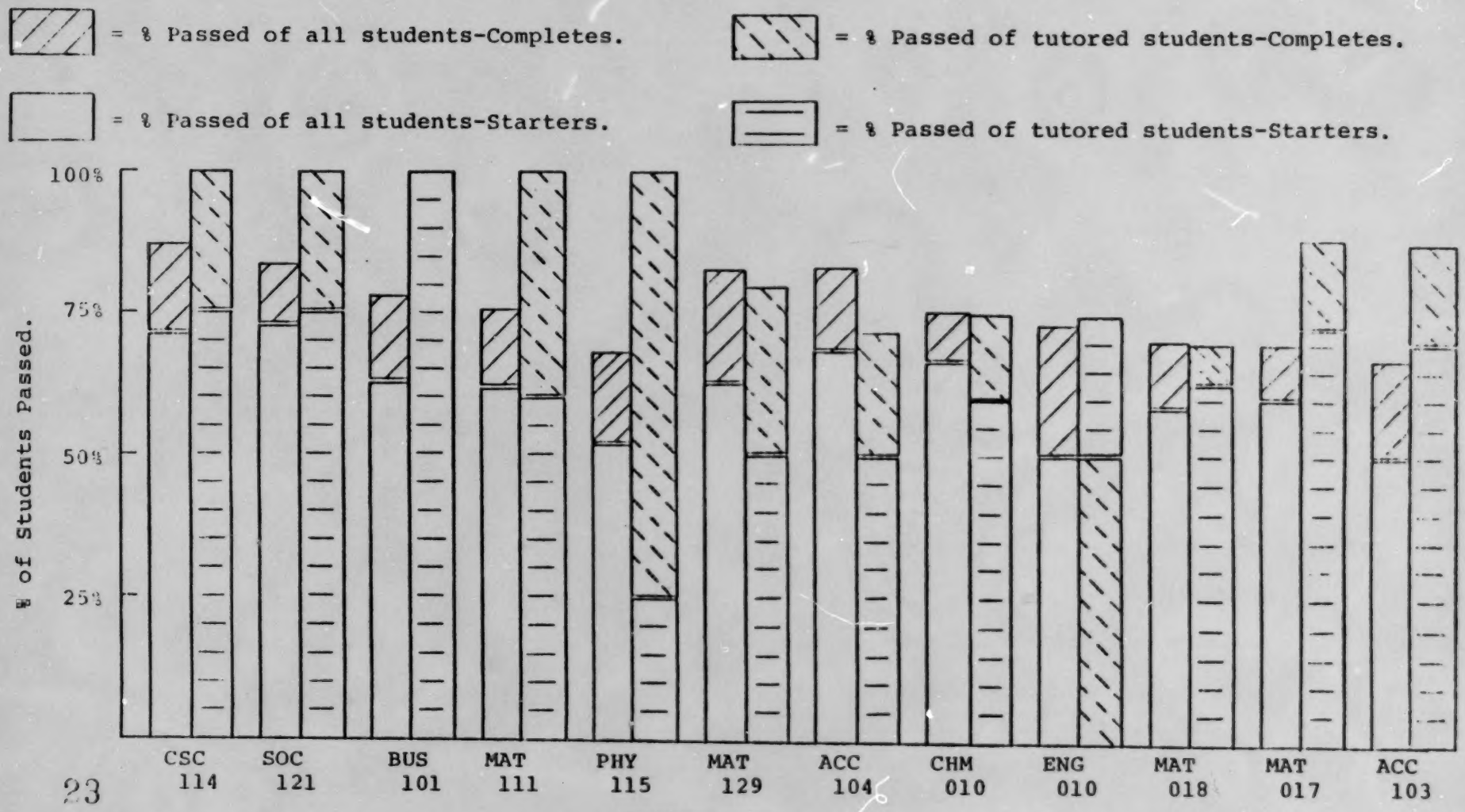


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FIGURE # 2.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
GRADES OF ALL TUTORED STUDENTS
IN THE FOLLOWING COURSES:

ACC 103
BUS 103
EDU 121
ELT 101
ENG 010
ESL 012
ESL 013
MAT 017
MAT 018
MAT 111
MEC 121

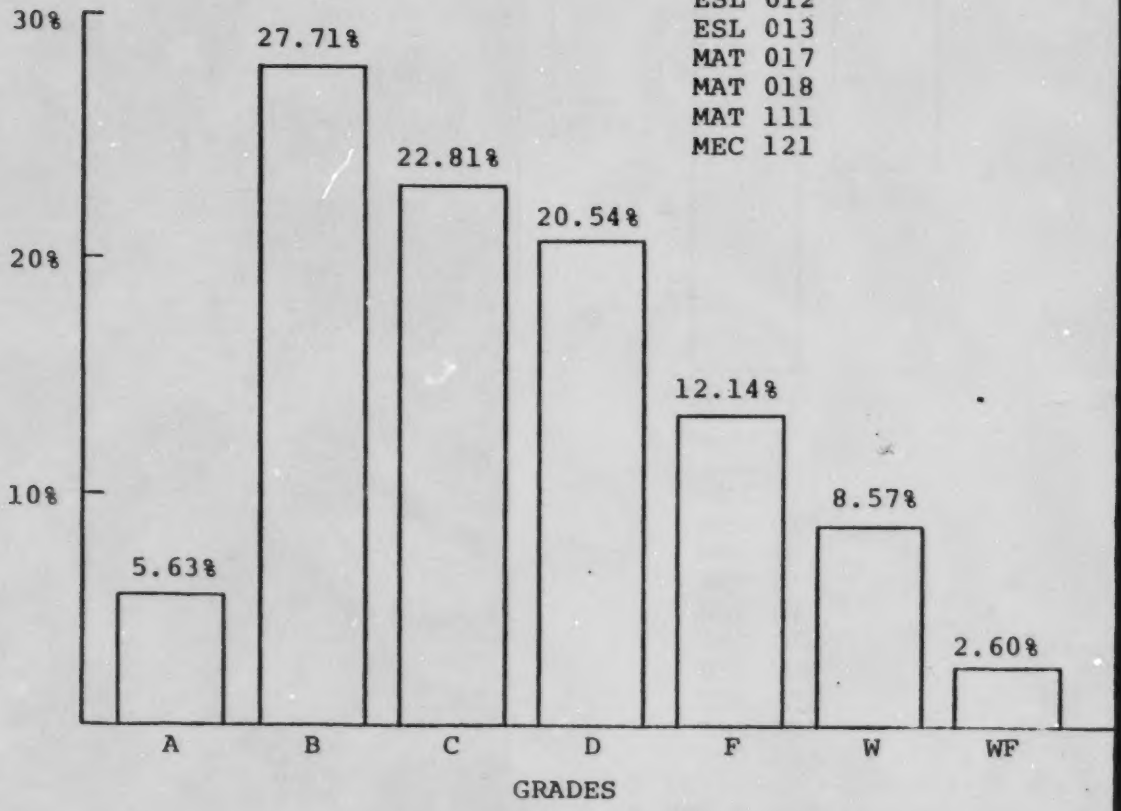


FIGURE # 3.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
GRADES OF ALL ENROLLED STUDENTS
IN THE FOLLOWING COURSES:

ACC 103
BUS 103
EDU 121
ELT 101
ENG 010
ESL 012
ESL 013
MAT 017
MAT 018
MAT 111
MEC 121

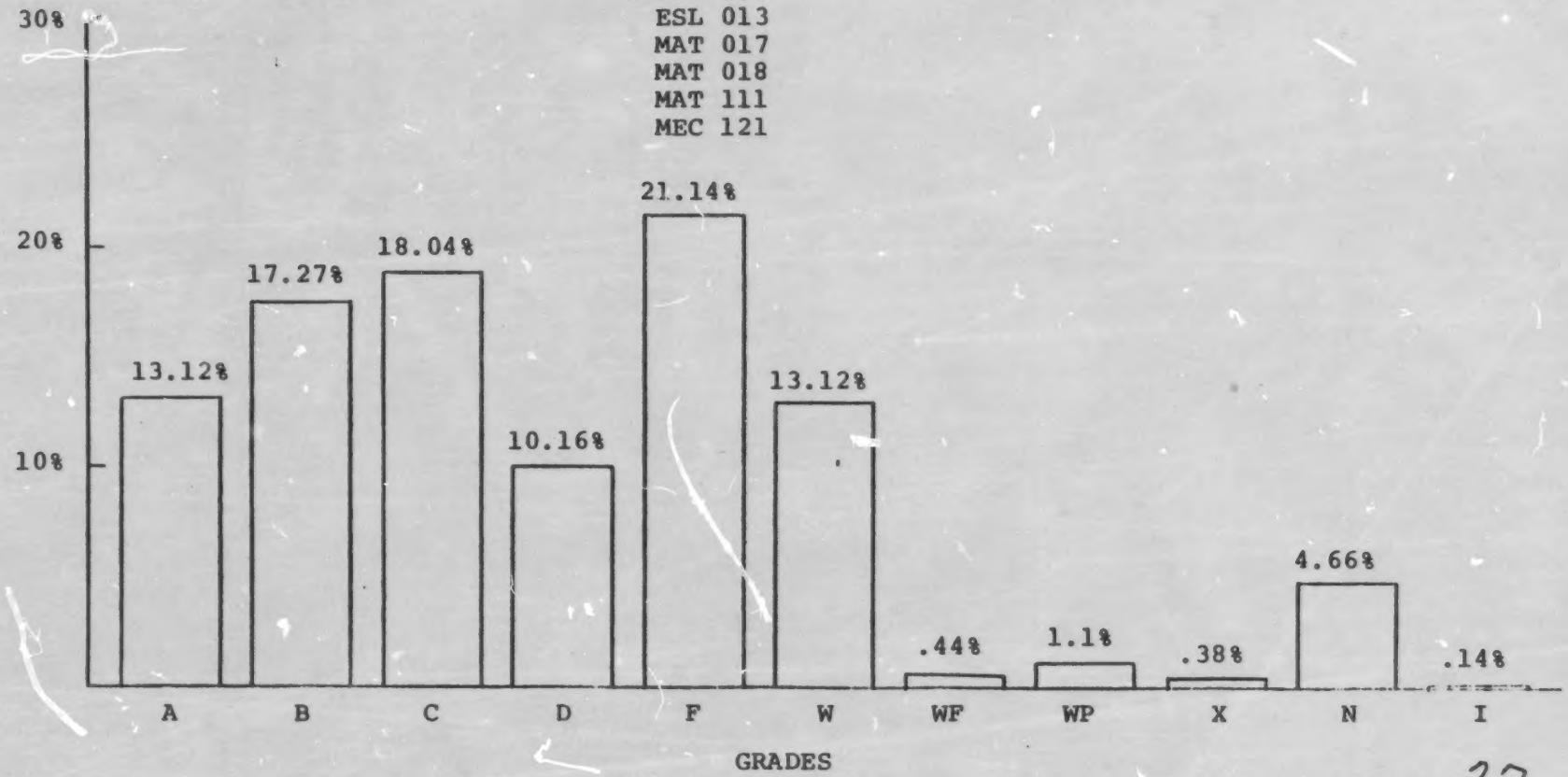


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FIGURE # 4.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
GRADES OF ALL TUTORED STUDENTS
IN THE FOLLOWING COURSES:

ACC 103
ACC 104
BUS 101
CHM 010
CSC 114
ENG 010
MAT 017
MAT 018
MAT 111
MAT 129
PHY 115
SOC 121

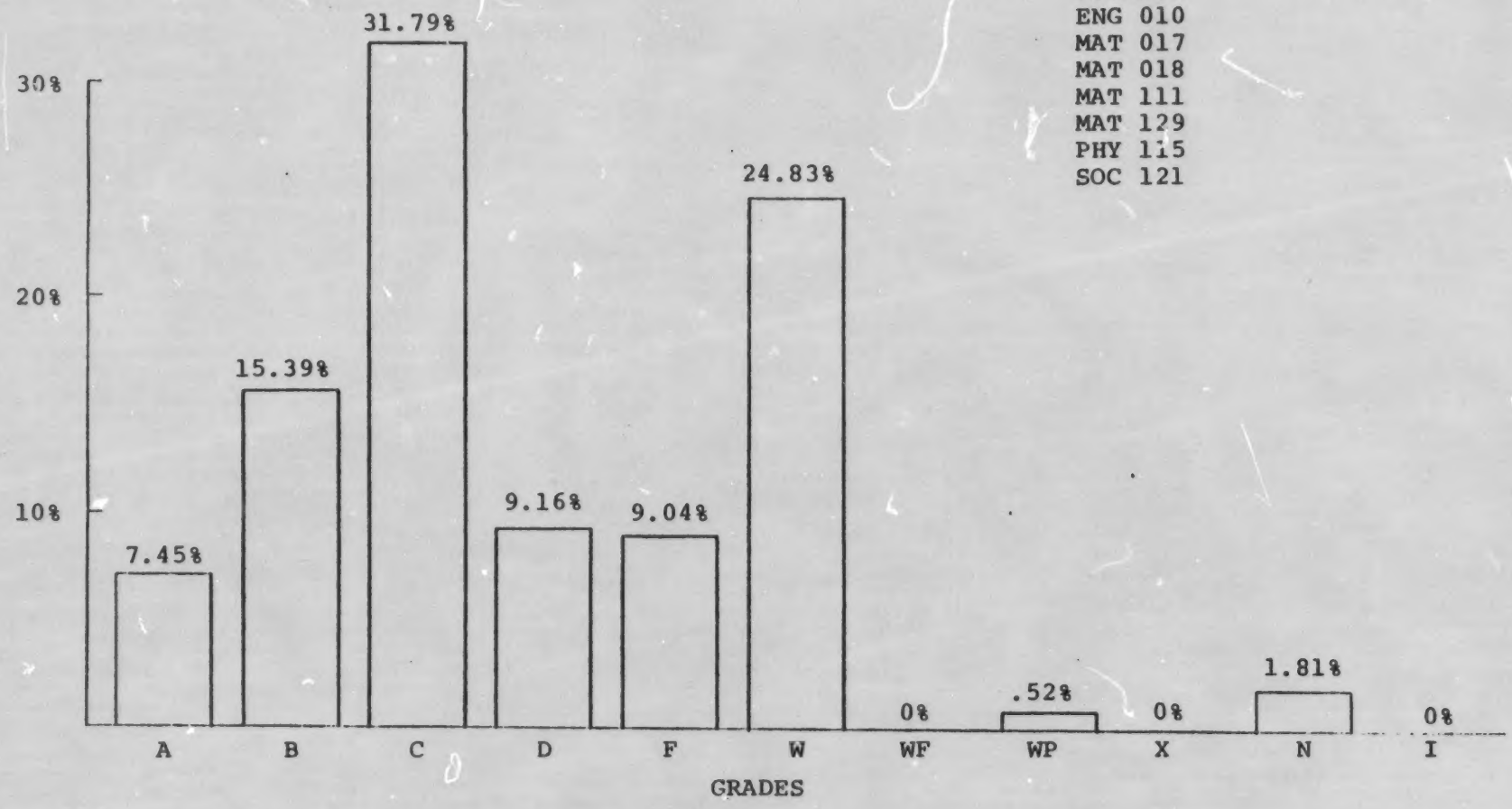


FIGURE # 5.



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SPRING 1982

SEMESTER PERFORMANCE RESULTS:
GRADES OF ALL ENROLLED STUDENTS
IN THE FOLLOWING COURSES:

ACC 103
ACC 104
BUS 101
CHM 010
CSC 114
ENG 010
MAT 017
MAT 018
MAT 111
MAT 129
PHY 115
SOC 121

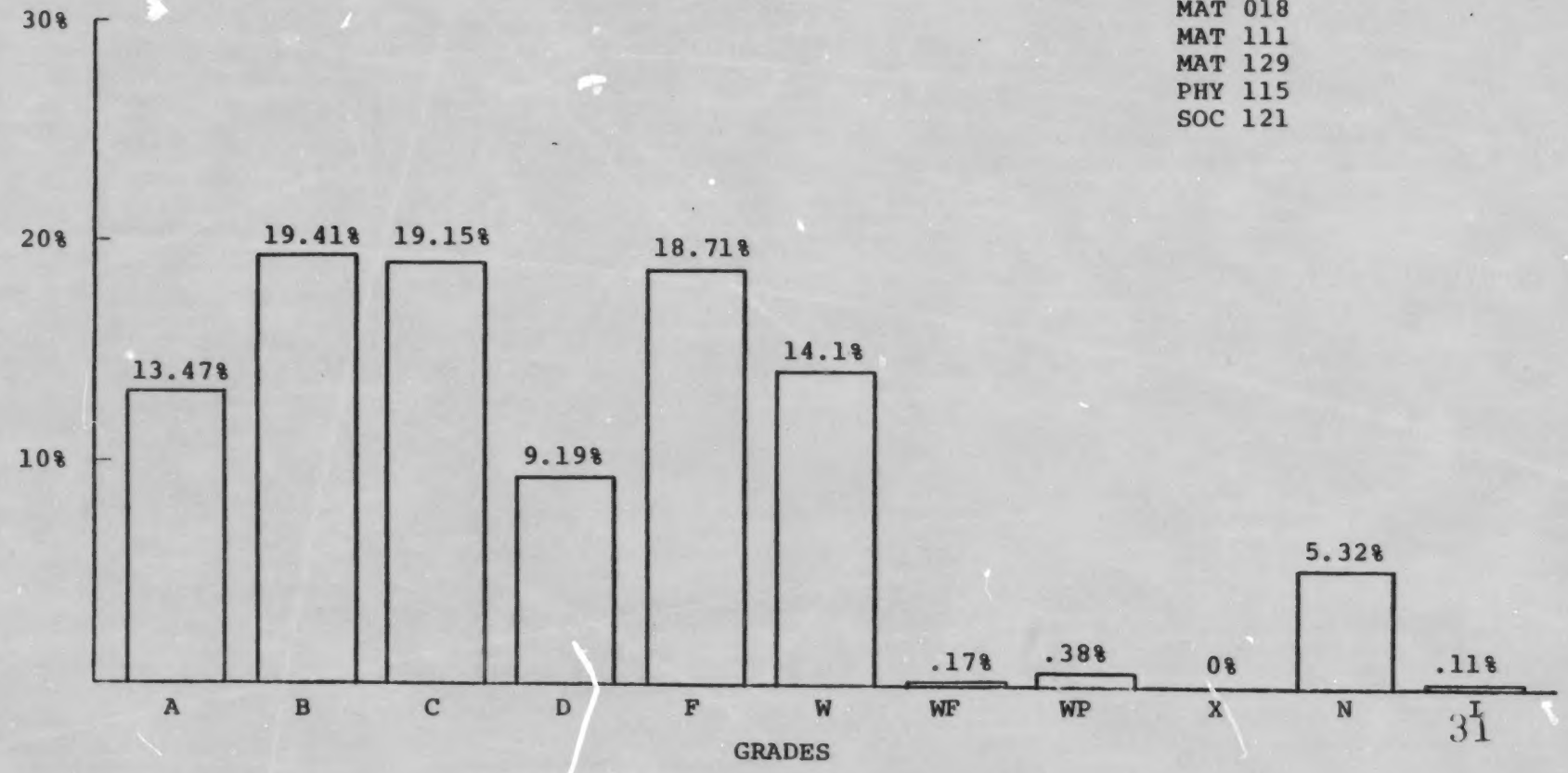
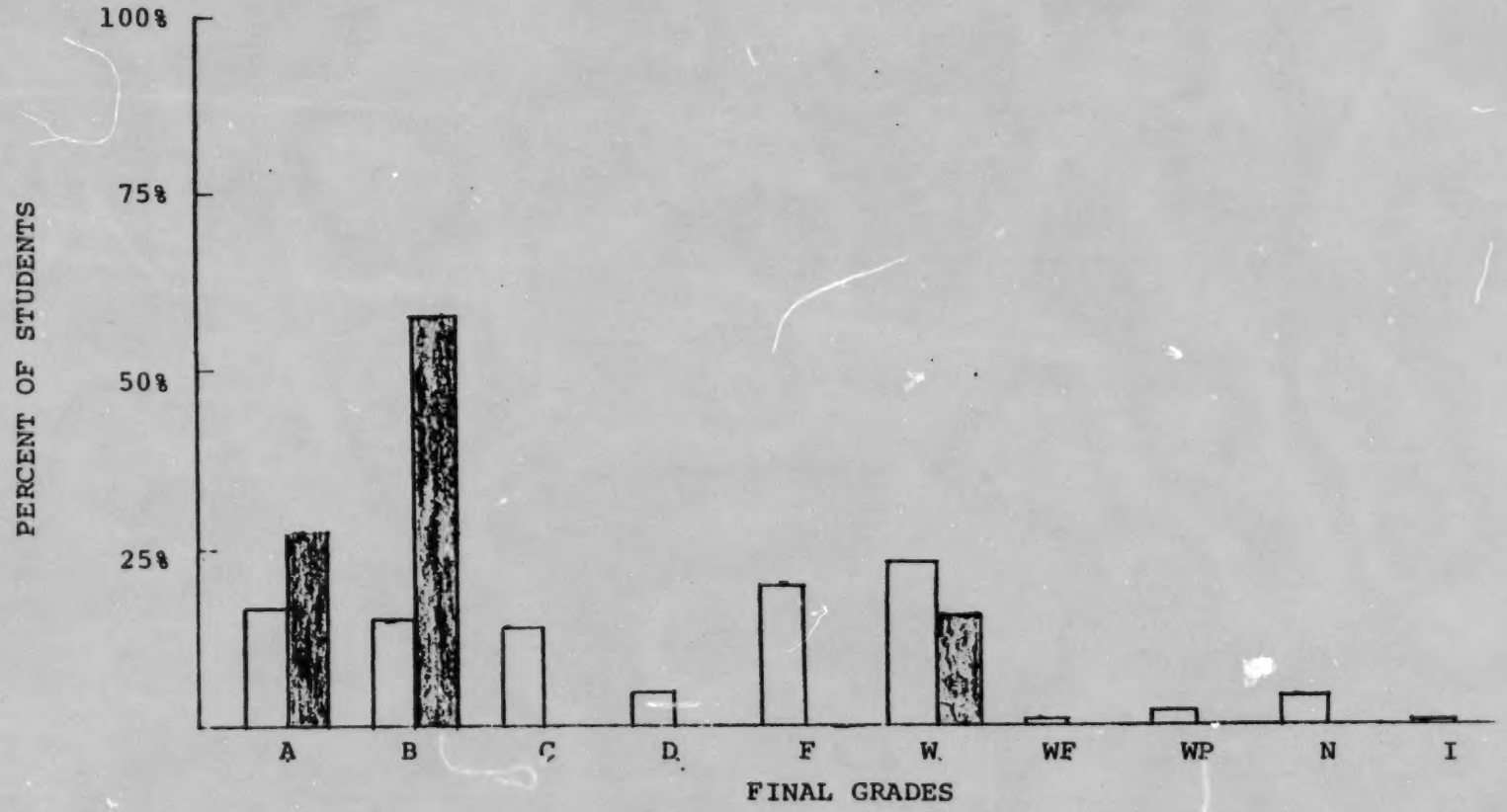



FIGURE # 6.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Principles of Accounting I (ACC 103)




- Non-Tutored
- Tutored

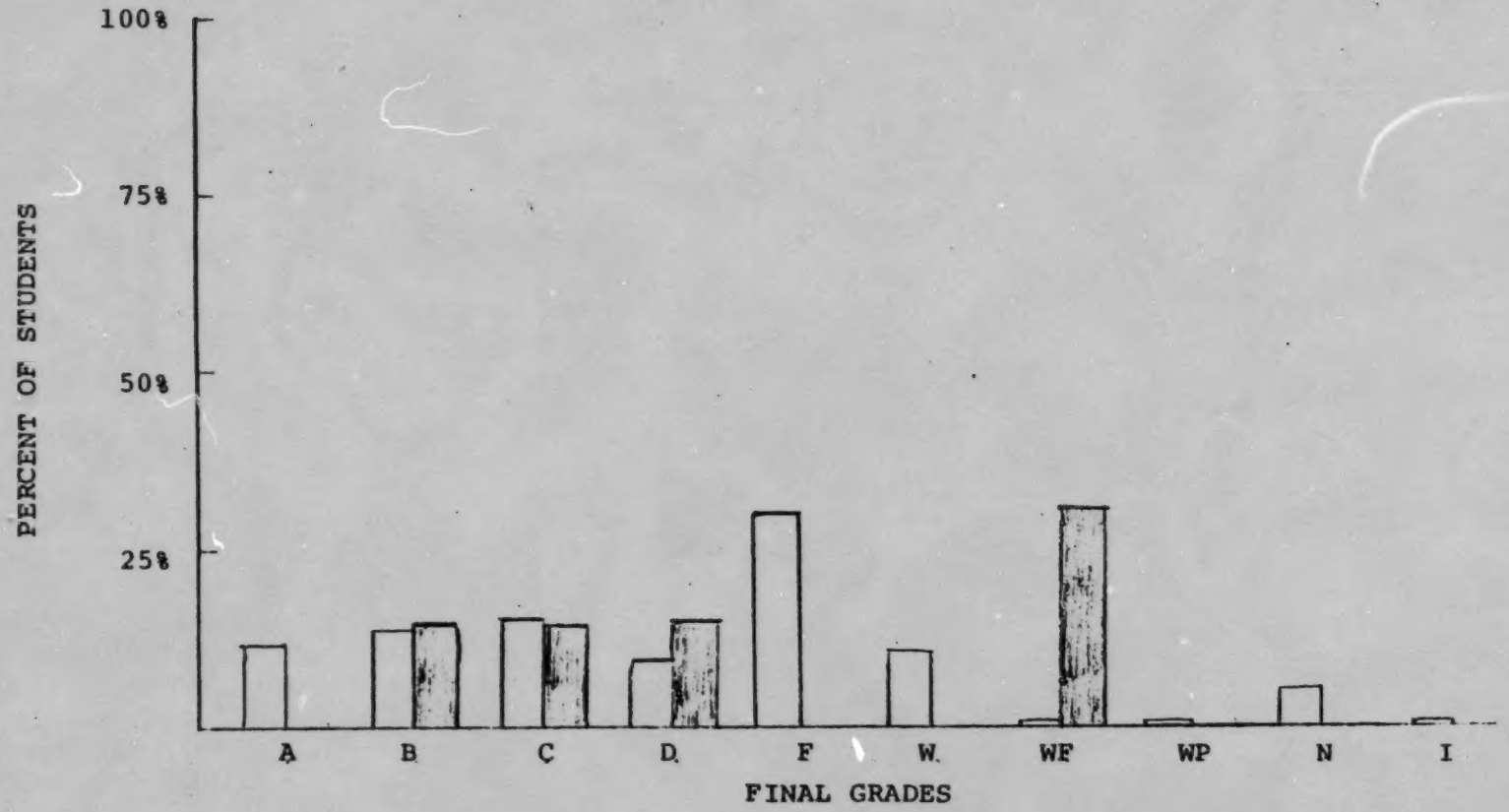
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 7.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Business Mathematics (BUS 103)




- Non-Tutored
- Tutored

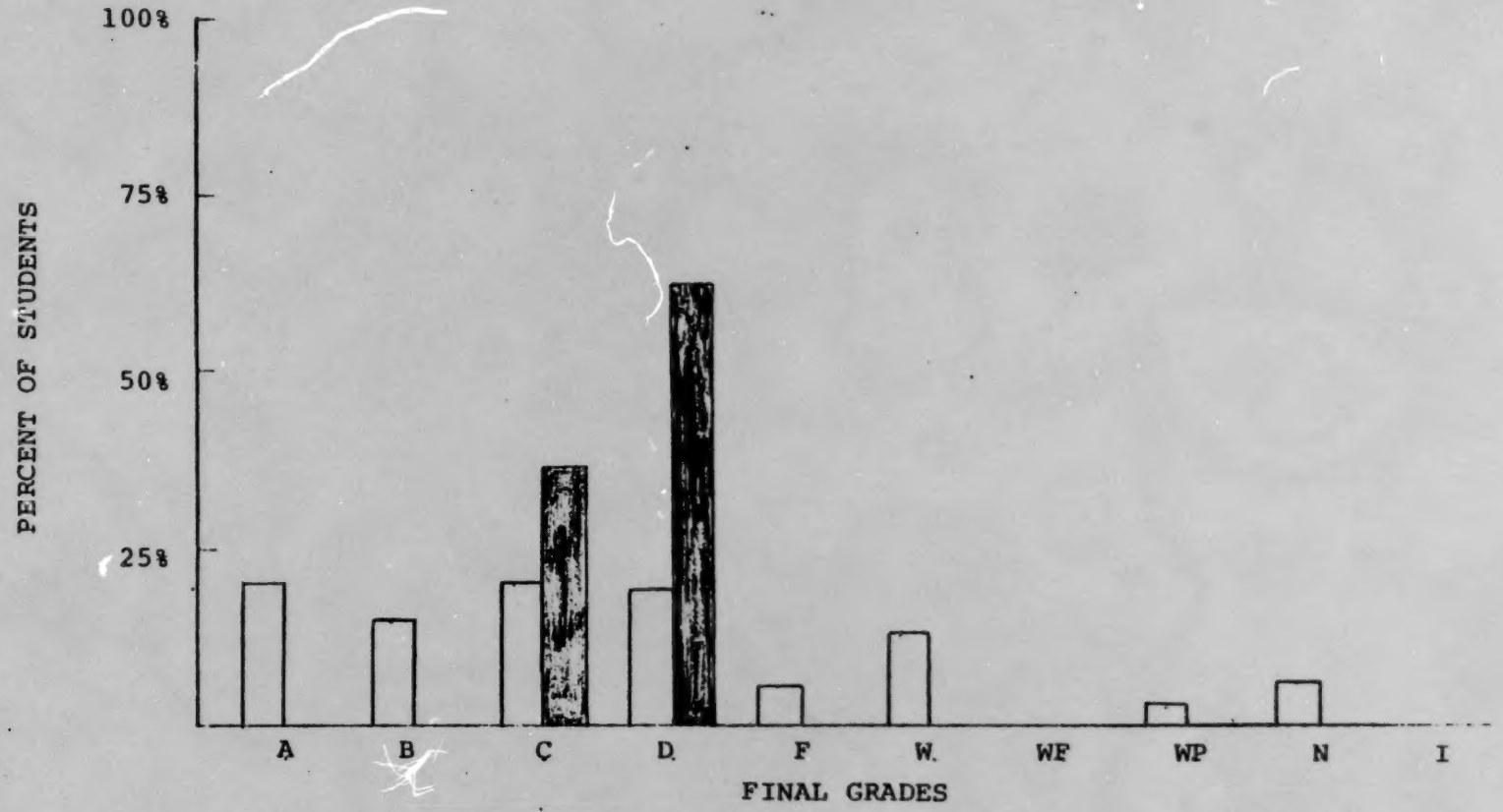
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 8.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Introduction to Education (EDU 121)




- Non-Tutored
- Tutored

W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

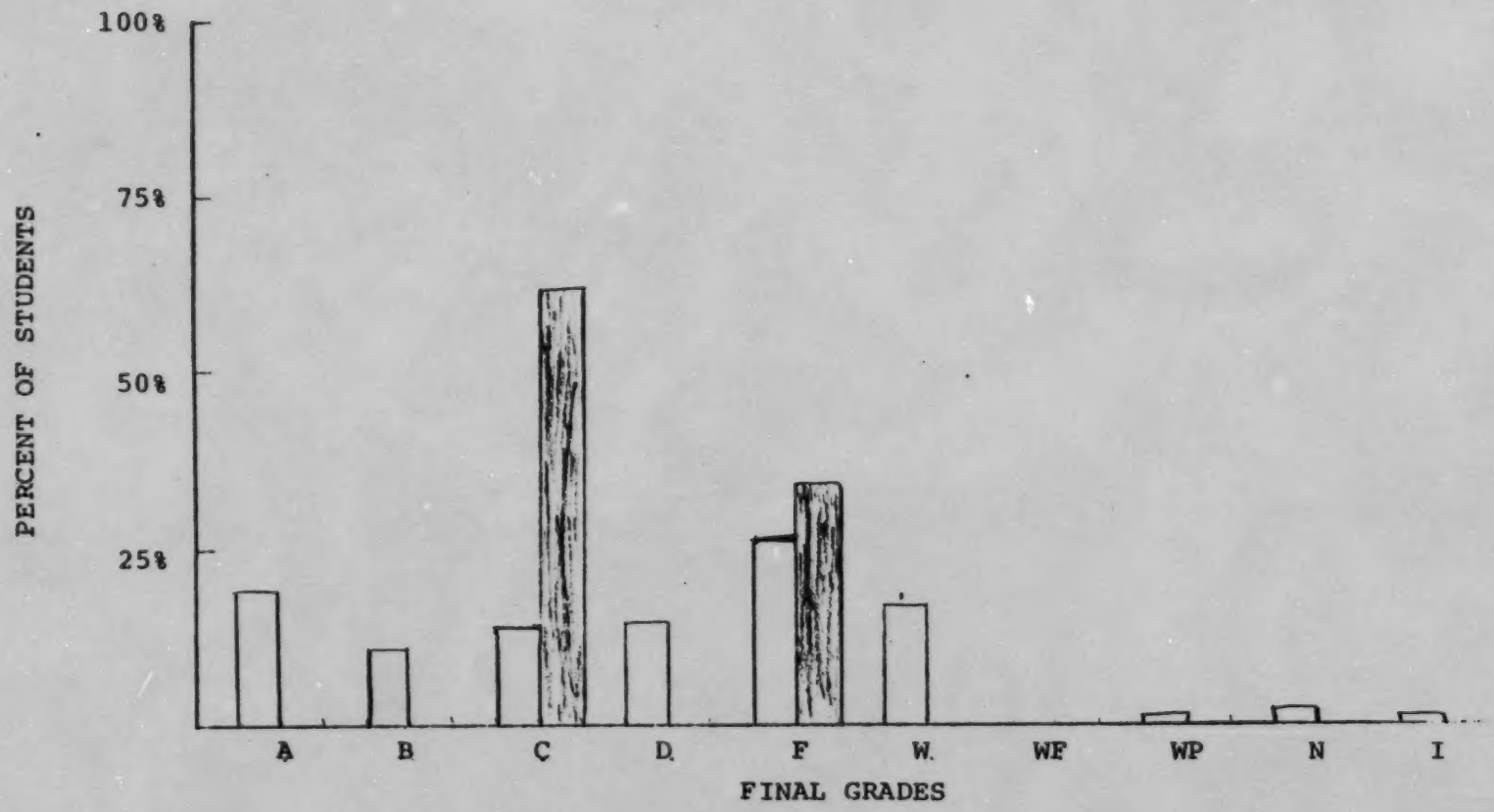


FIGURE # 9.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Circuits I (ELT 101)




- Non-Tutored
- Tutored

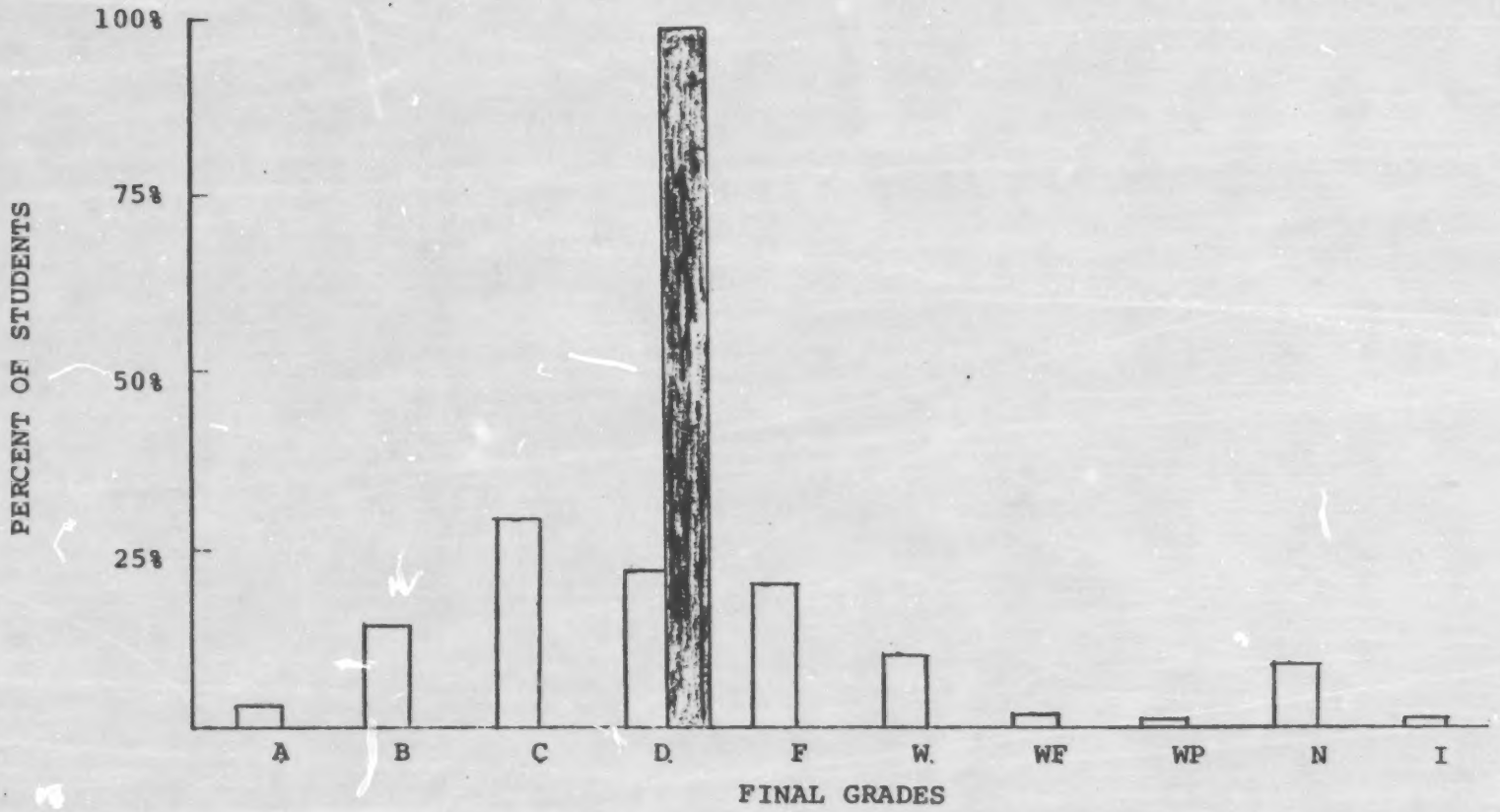
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 10.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Writing Skills For College (ENG 010)




- Non-Tutored
- Tutored

W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

40

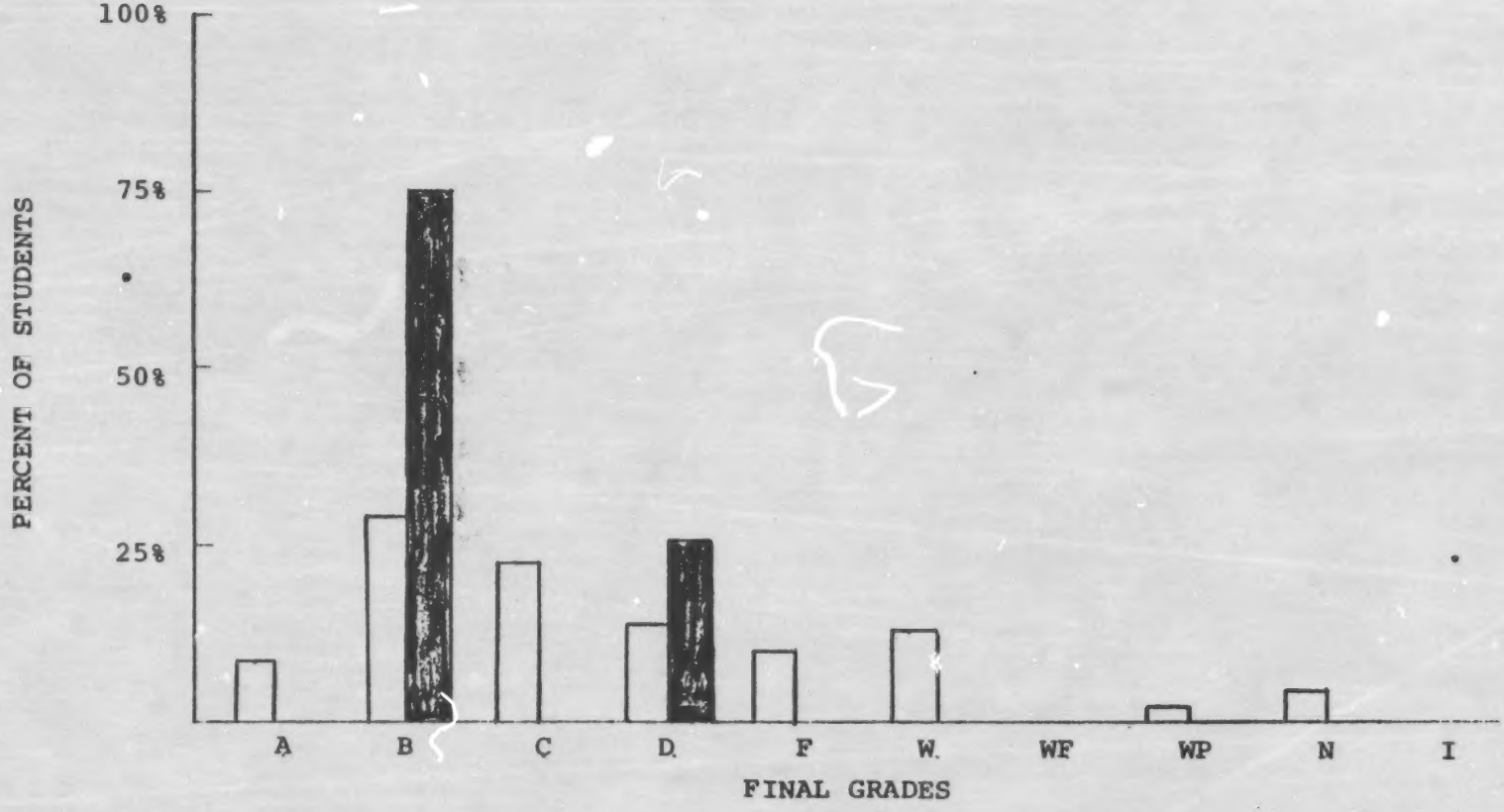
FIGURE # 11.

41

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

English as a Second Language (Intermediate)
(ESL 012)




42 - Non-Tutored

- Tutored

W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

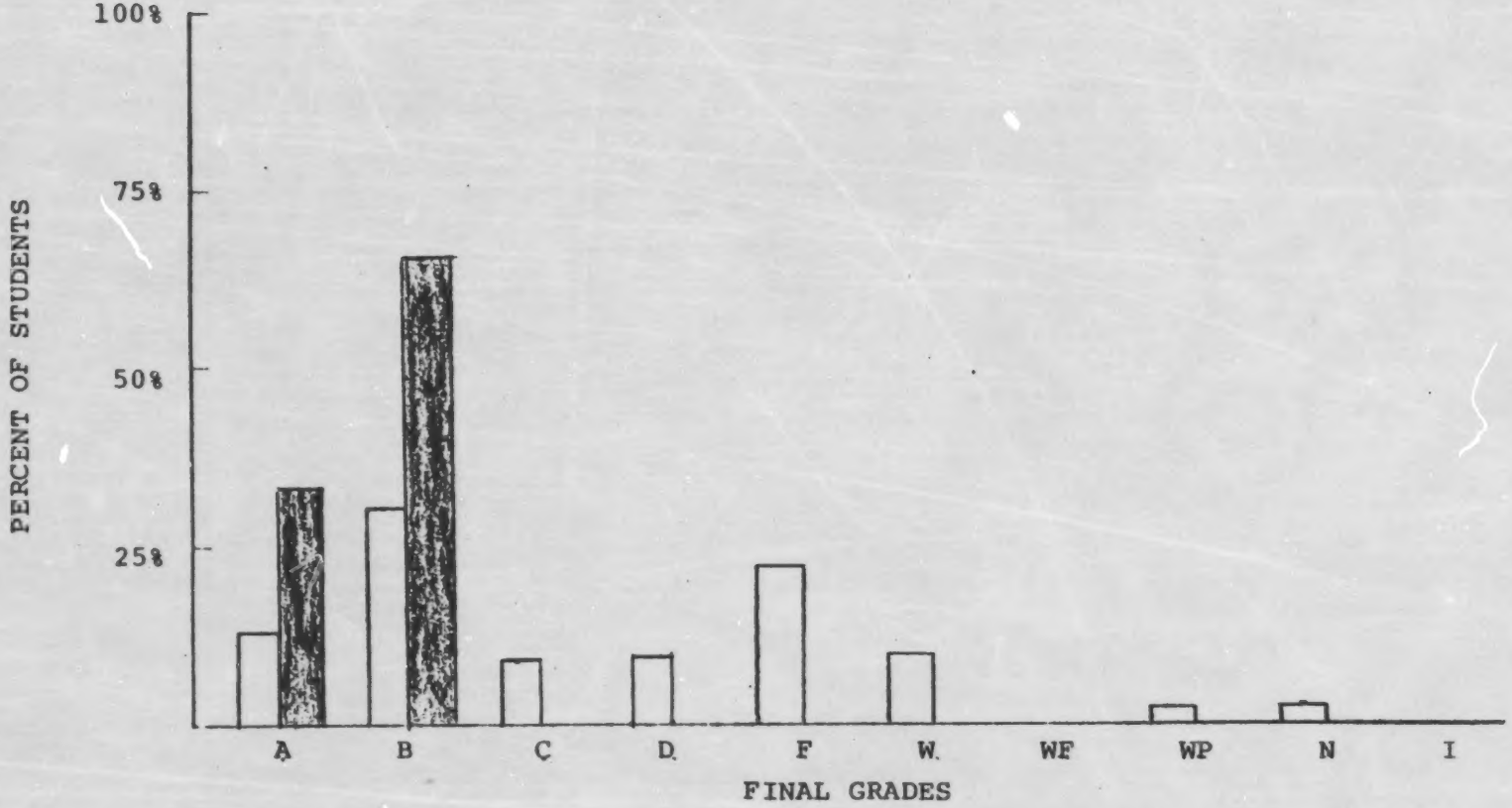
43

FIGURE # 12.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

ENGLISH AS A SECOND LANGUAGE (ADVANCED)
(ESL 013)




- Non-Tutored

- Tutored

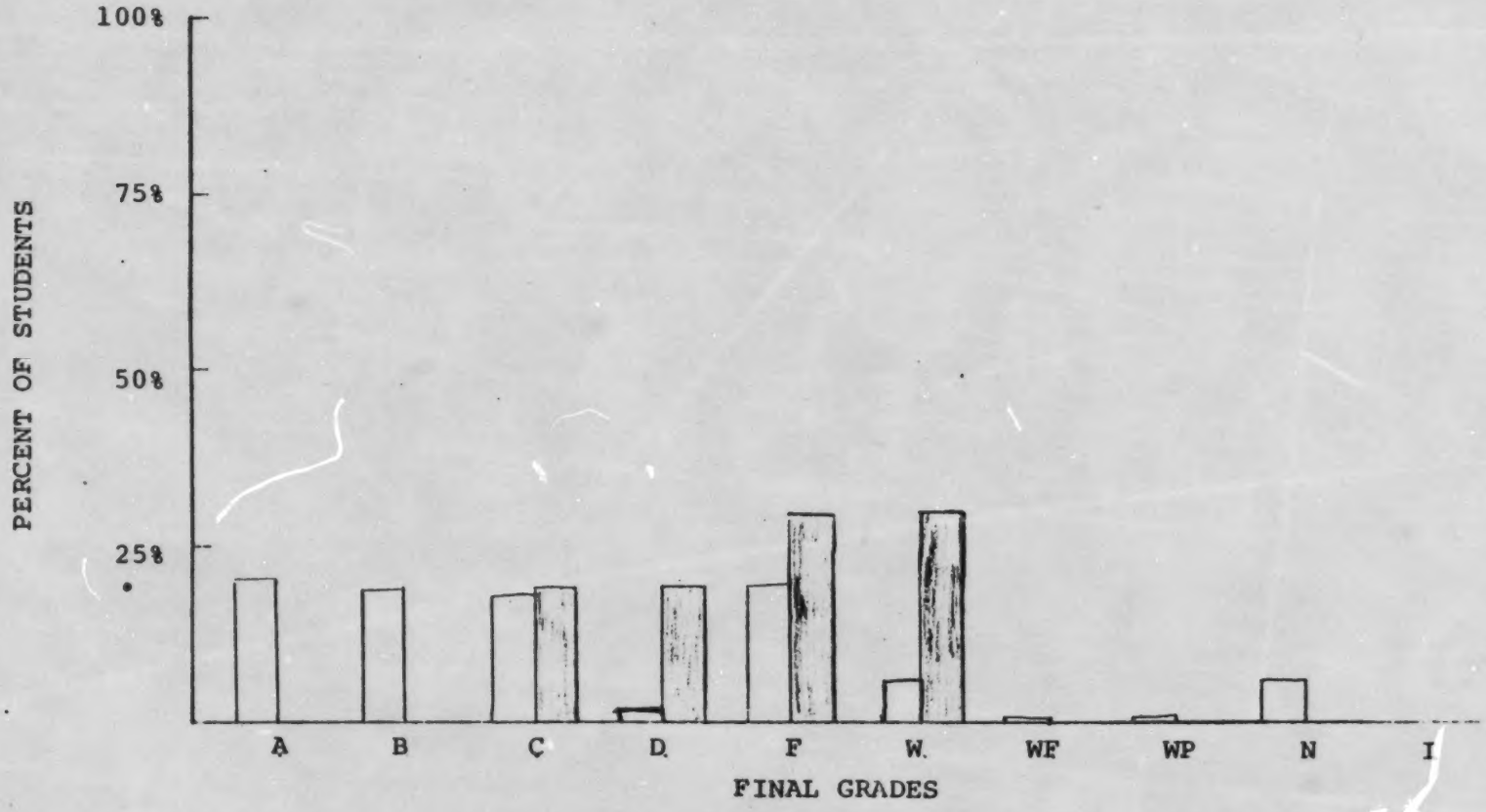
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 13.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Developmental Mathematics I (MAT 017)




- Non-Tutored
- Tutored

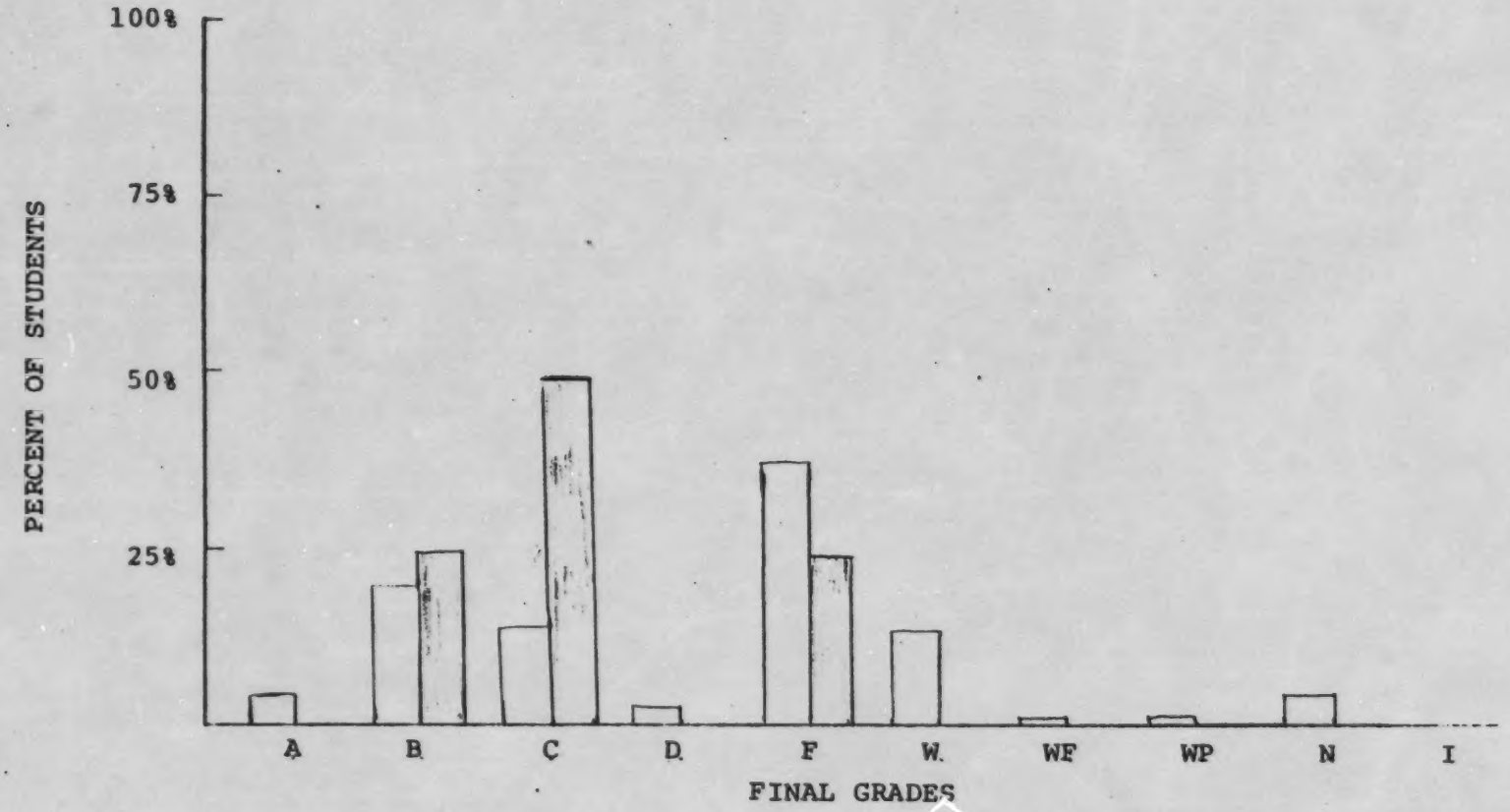
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 14.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Developmental Mathematics II (MAT 018)




- Non-Tutored
- Tutored

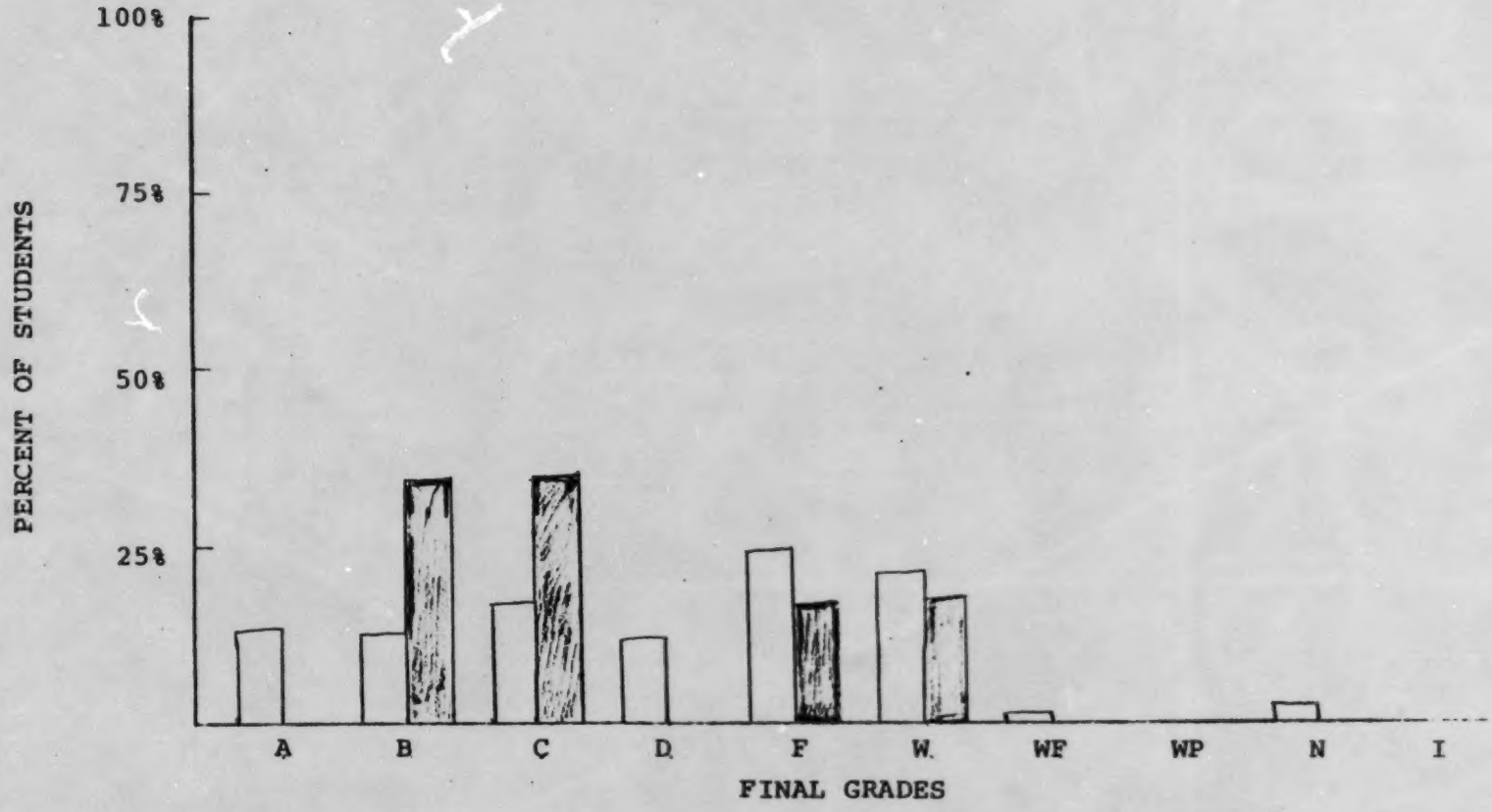
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 15.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

College Algebra and Trigonometry
(MAT 111)




50

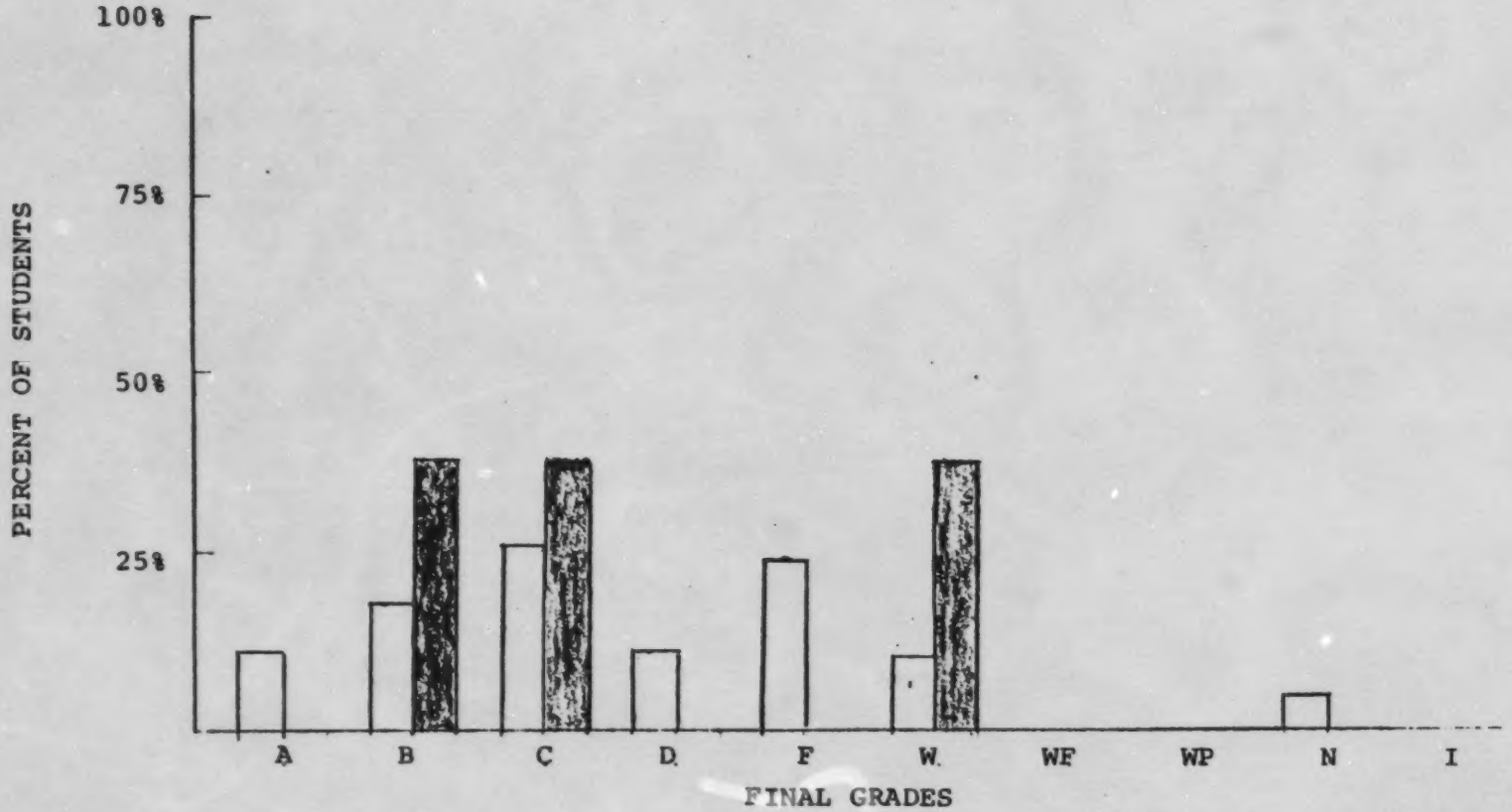
51

FIGURE # 16.

FALL 1981

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Engineering Graphics I (MEC 121)




- Non-Tutored
- Tutored

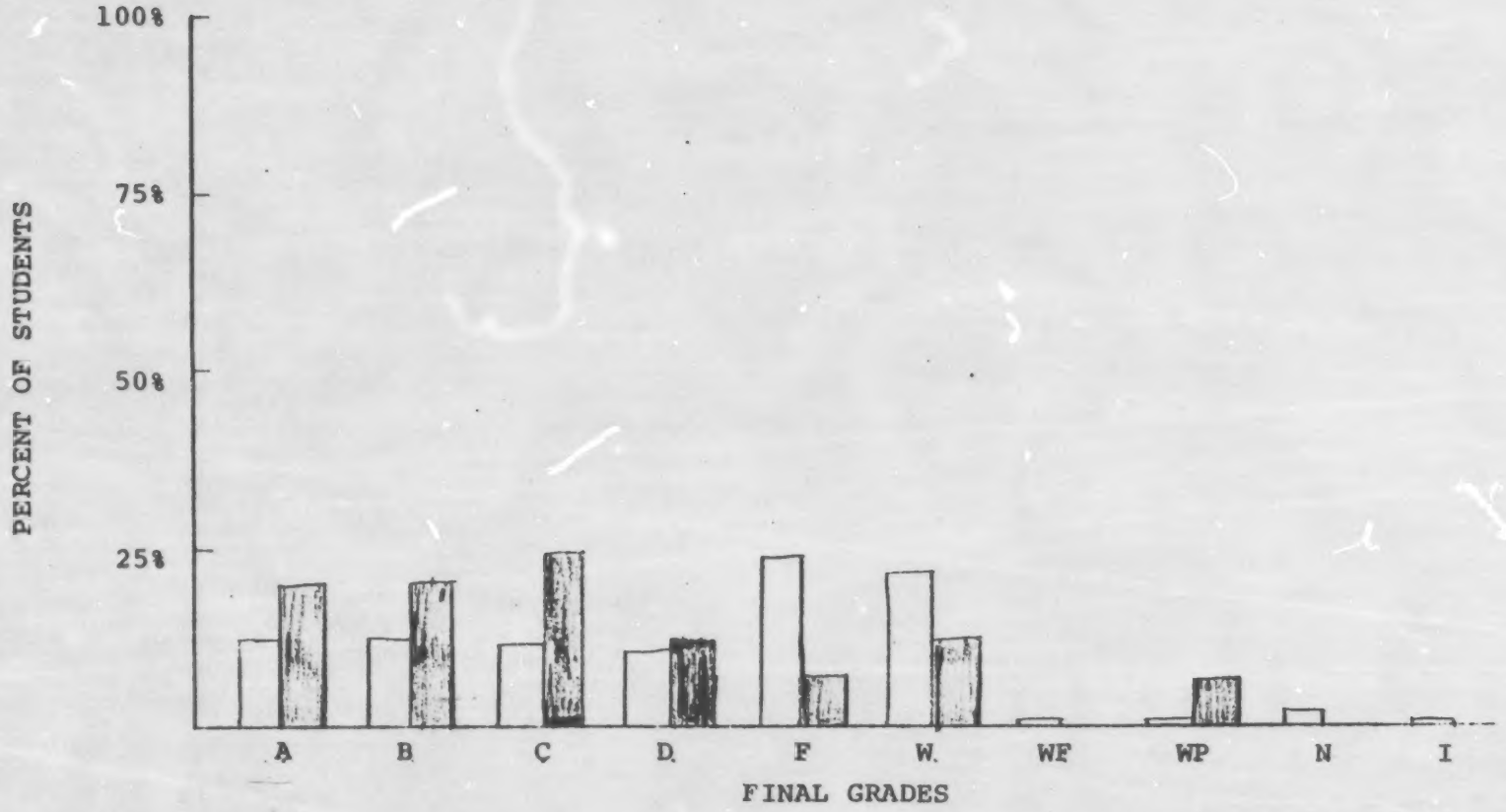
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 17.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Principles of Accounting I (ACC 103)




- Non-Tutored
- Tutored

W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

54

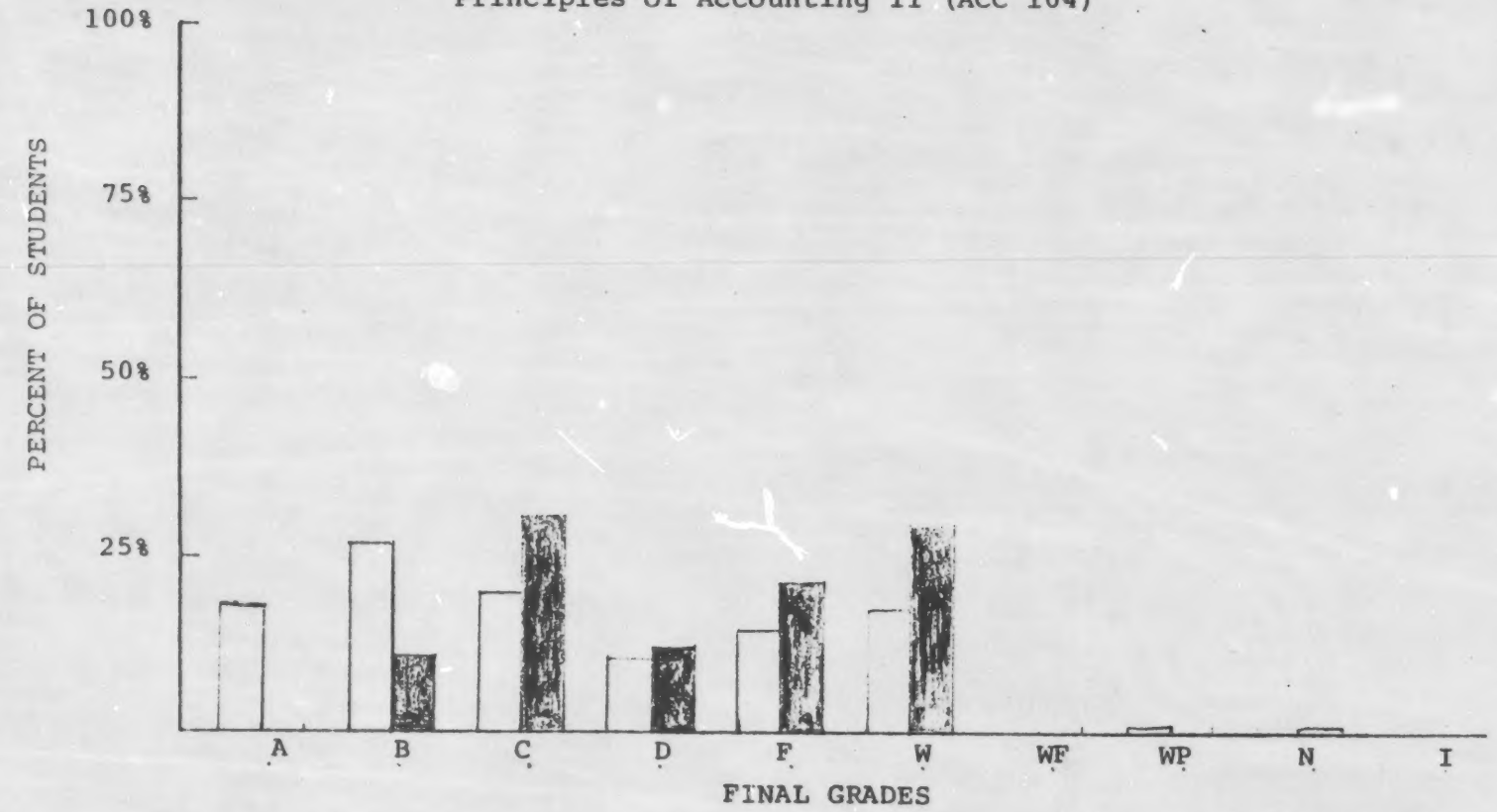
55

FIGURE # 18.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Principles of Accounting II (ACC 104)




- Non-Tutored
- Tutored

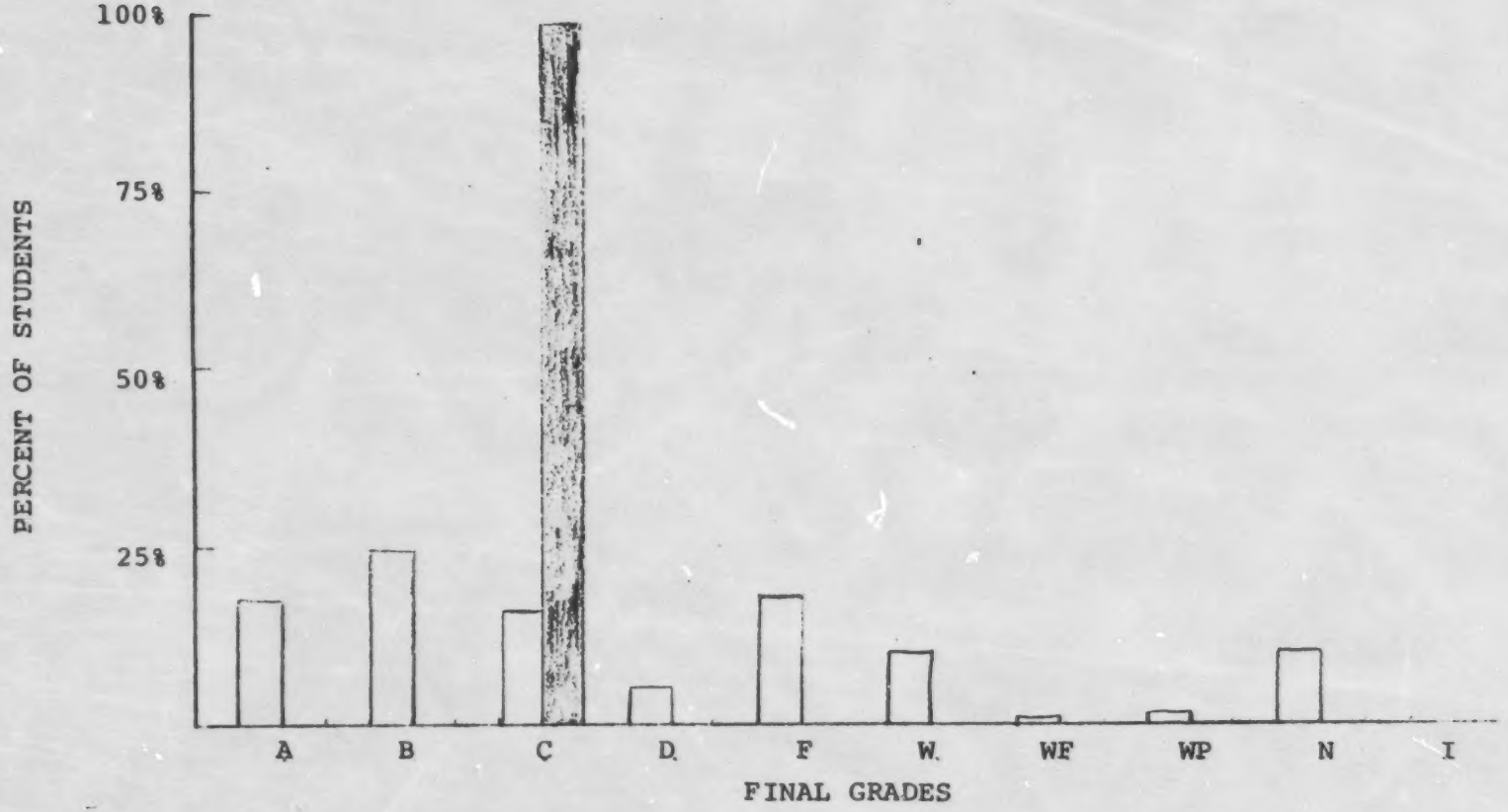
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 19.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Business Organization and Management
(BUS 101)




- Non-Tutored
- Tutored

W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

58

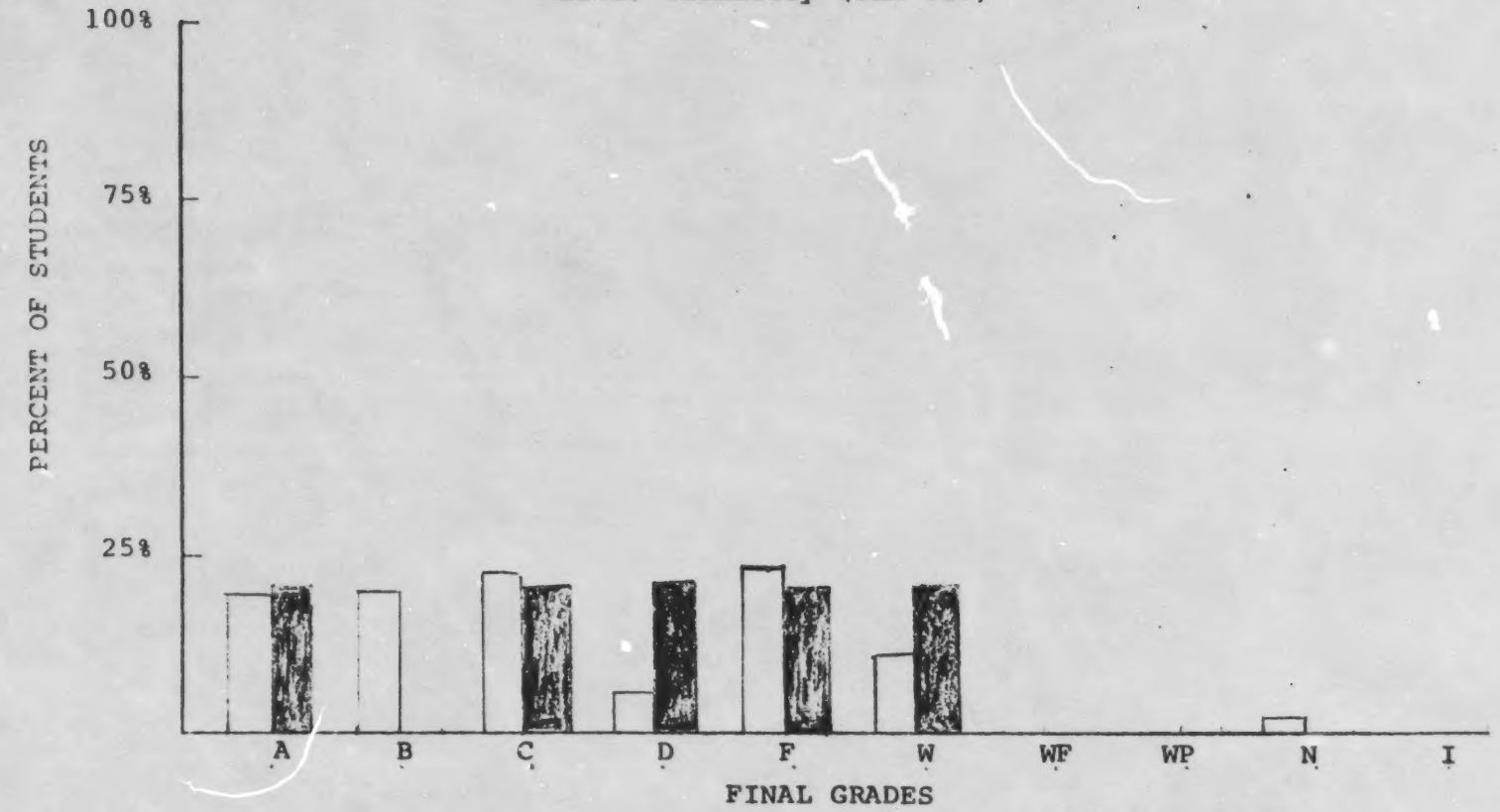
59

FIGURE # 20.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Basic Chemistry (CHM 010)




- Non-Tutored
- Tutored

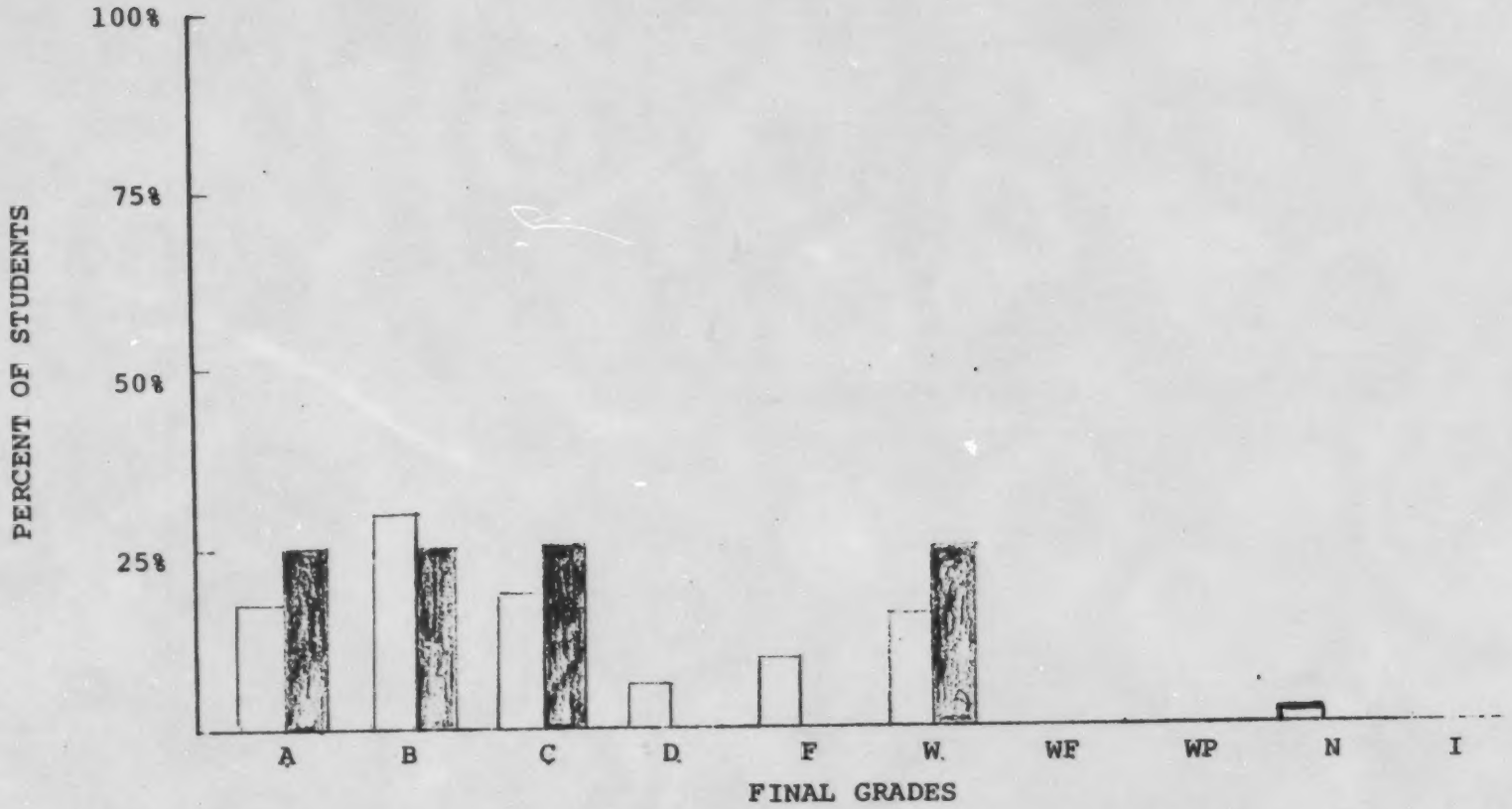
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 21.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Data Structures (CSC 114)




- Non-Tutored
- Tutored

W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

62

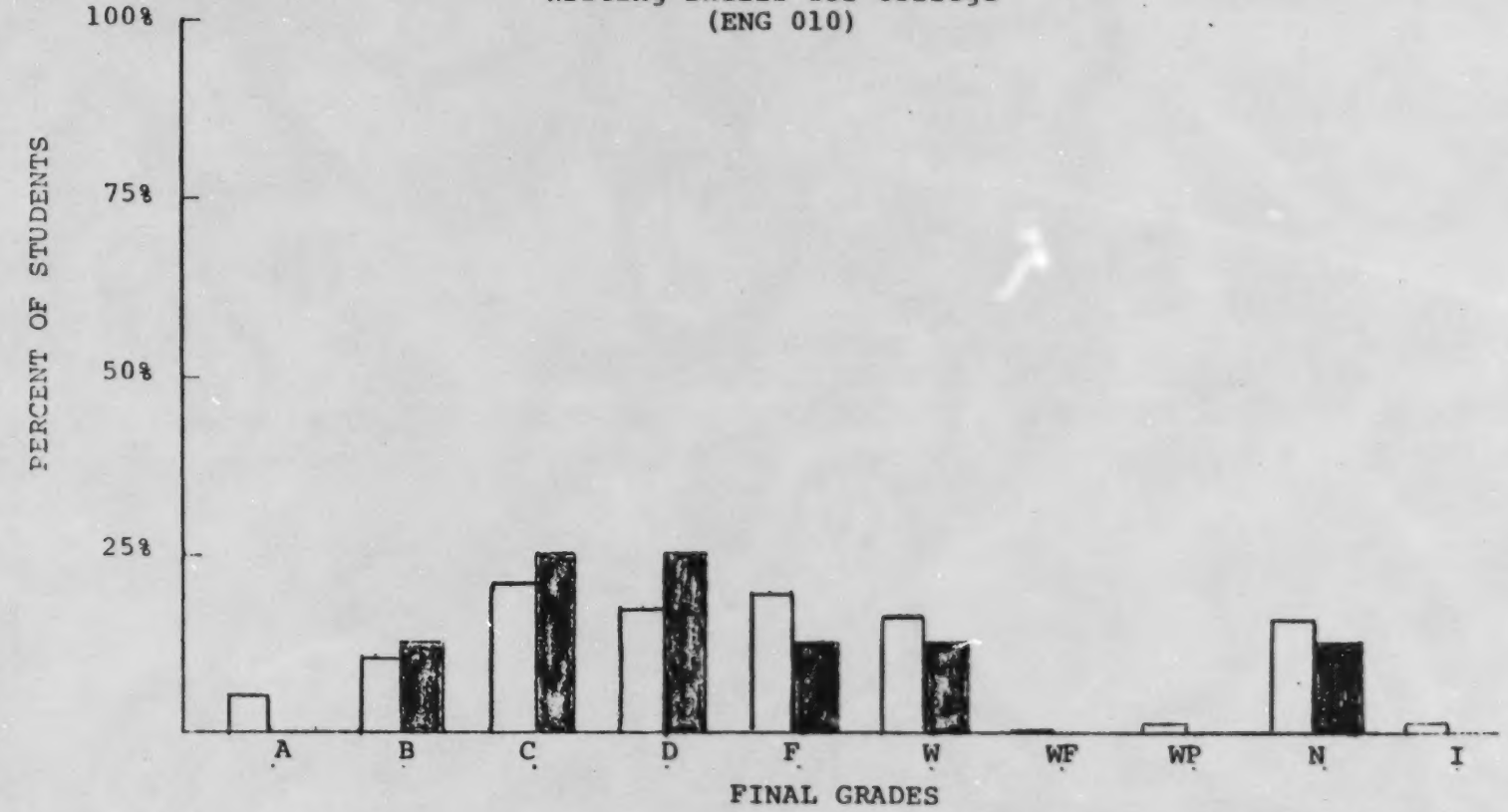
63

FIGURE # 22.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Writing Skills for College
(ENG 010)




- Non-Tutored
- Tutored

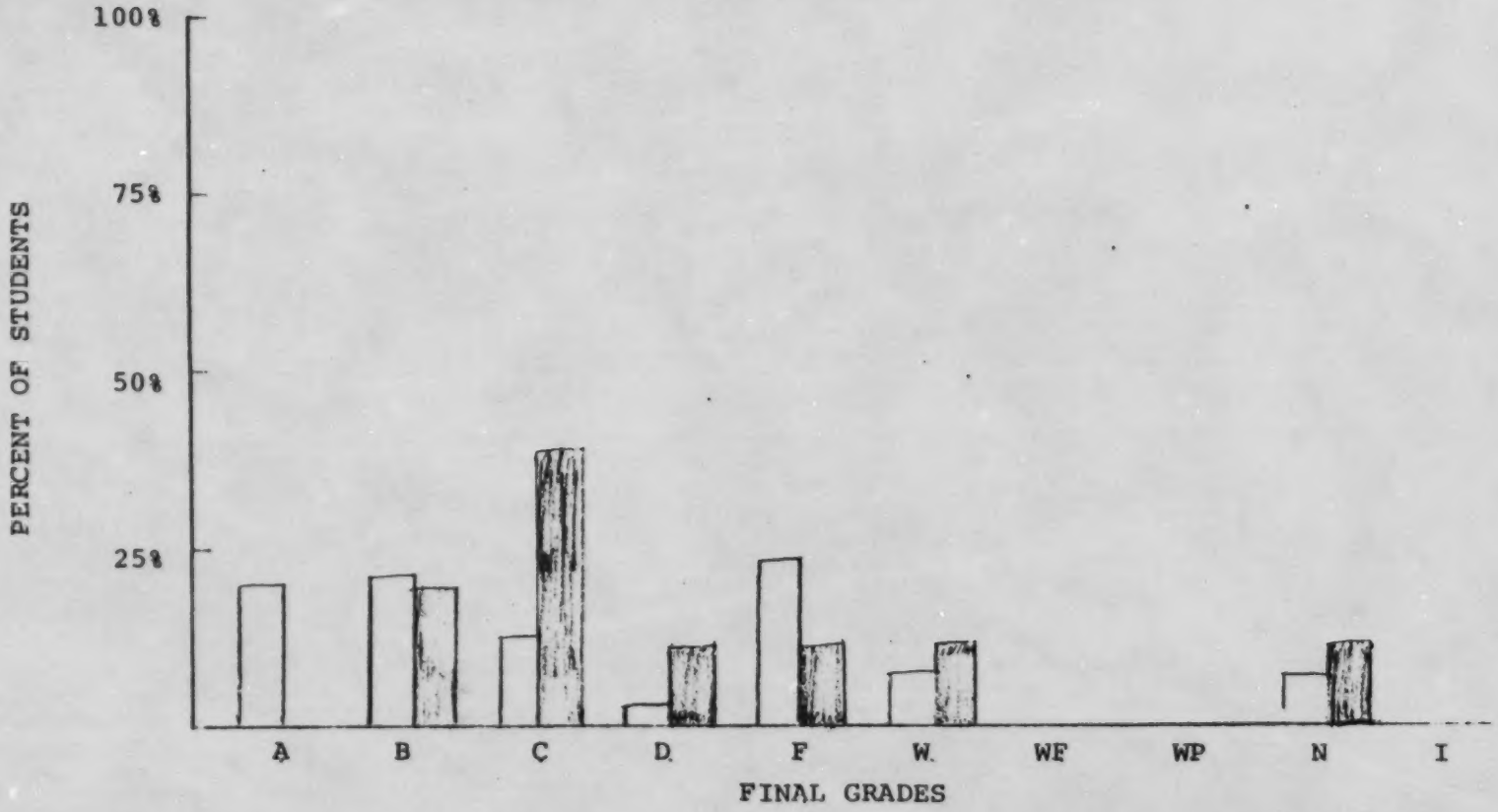
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 23.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Developmental Mathematics I
(MAT 017)




- Non-Tutored
- Tutored

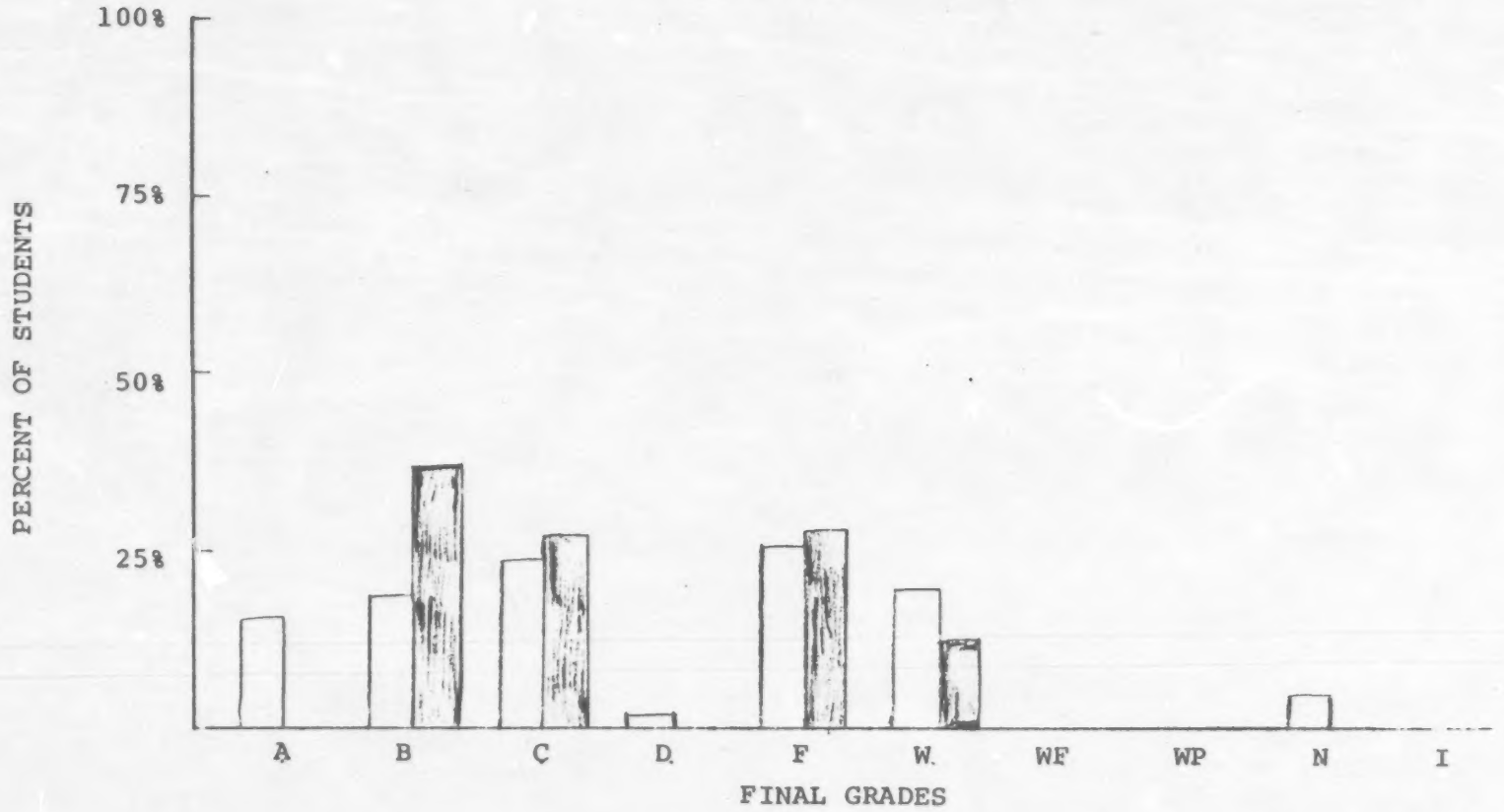
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 24.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Developmental Mathematics II
(MAT 018)




- Non-Tutored

- Tutored

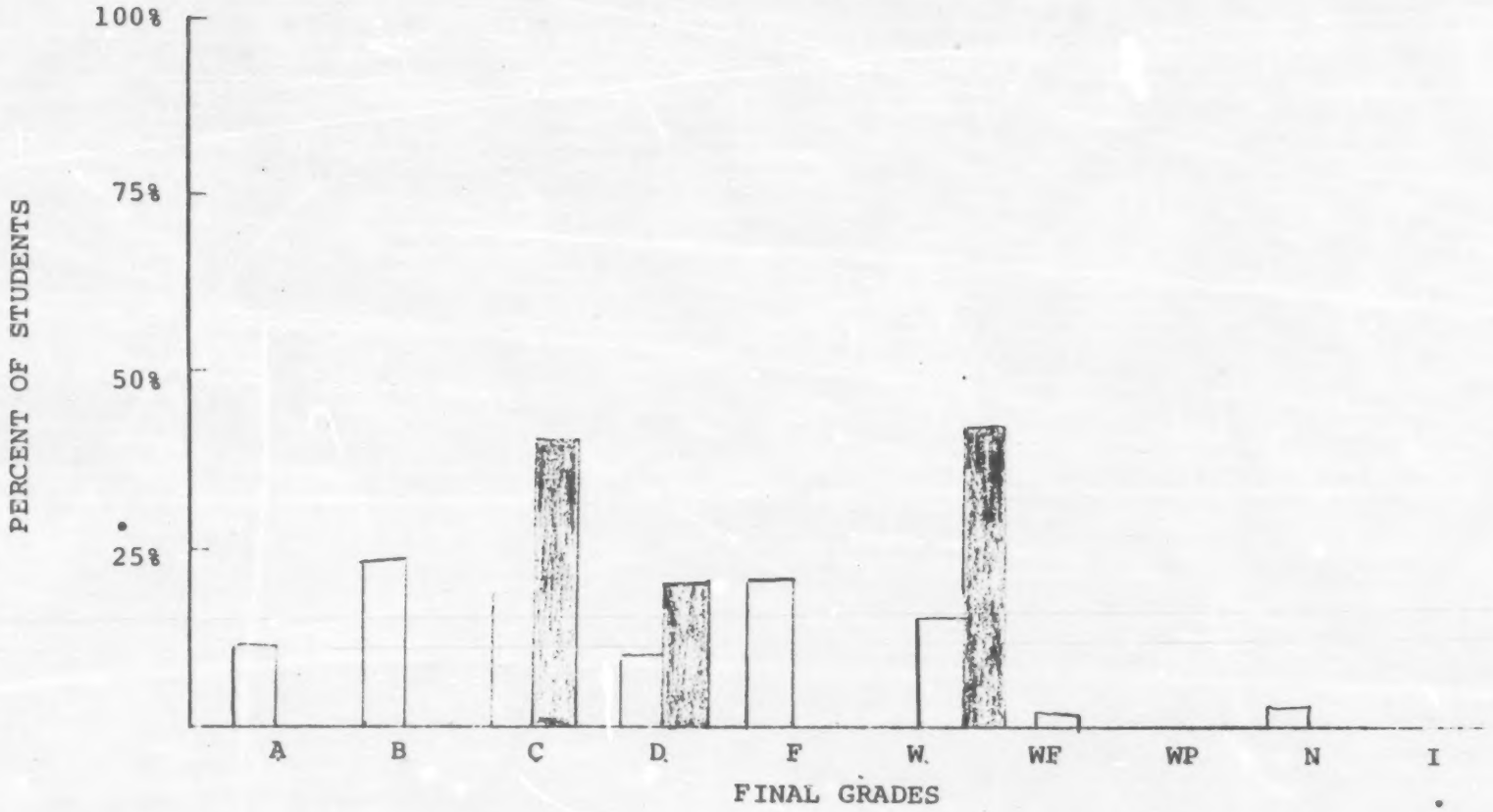
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 25.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

College Algebra and Trigonometry
(MAT 111)




- Non-Tutored
- Tutored

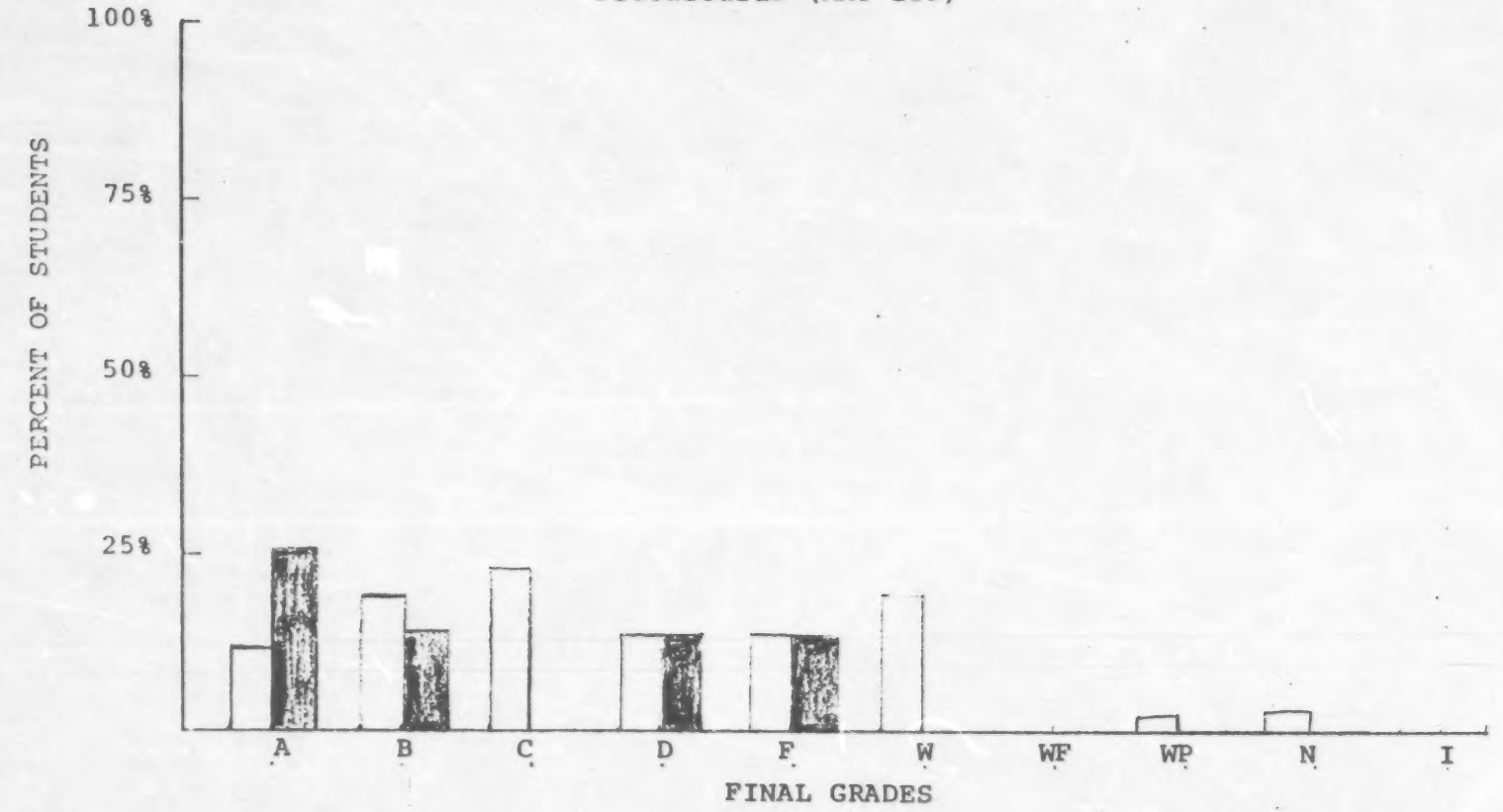
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 26.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Precalculus (MAT 129)




- Non-Tutored
- Tutored

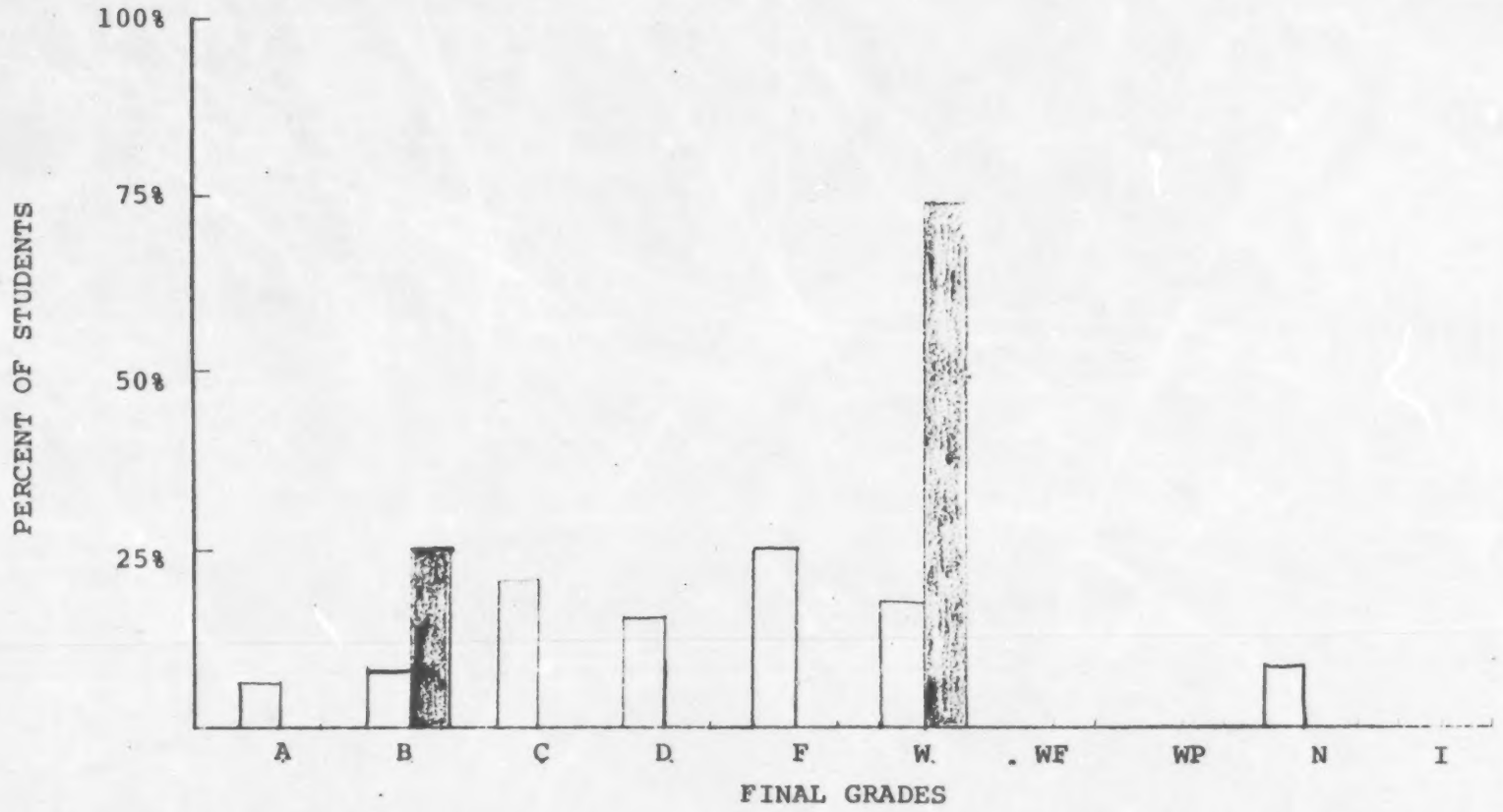
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 27.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

College Physics I (PHY 115)




- Non-Tutored
- Tutored

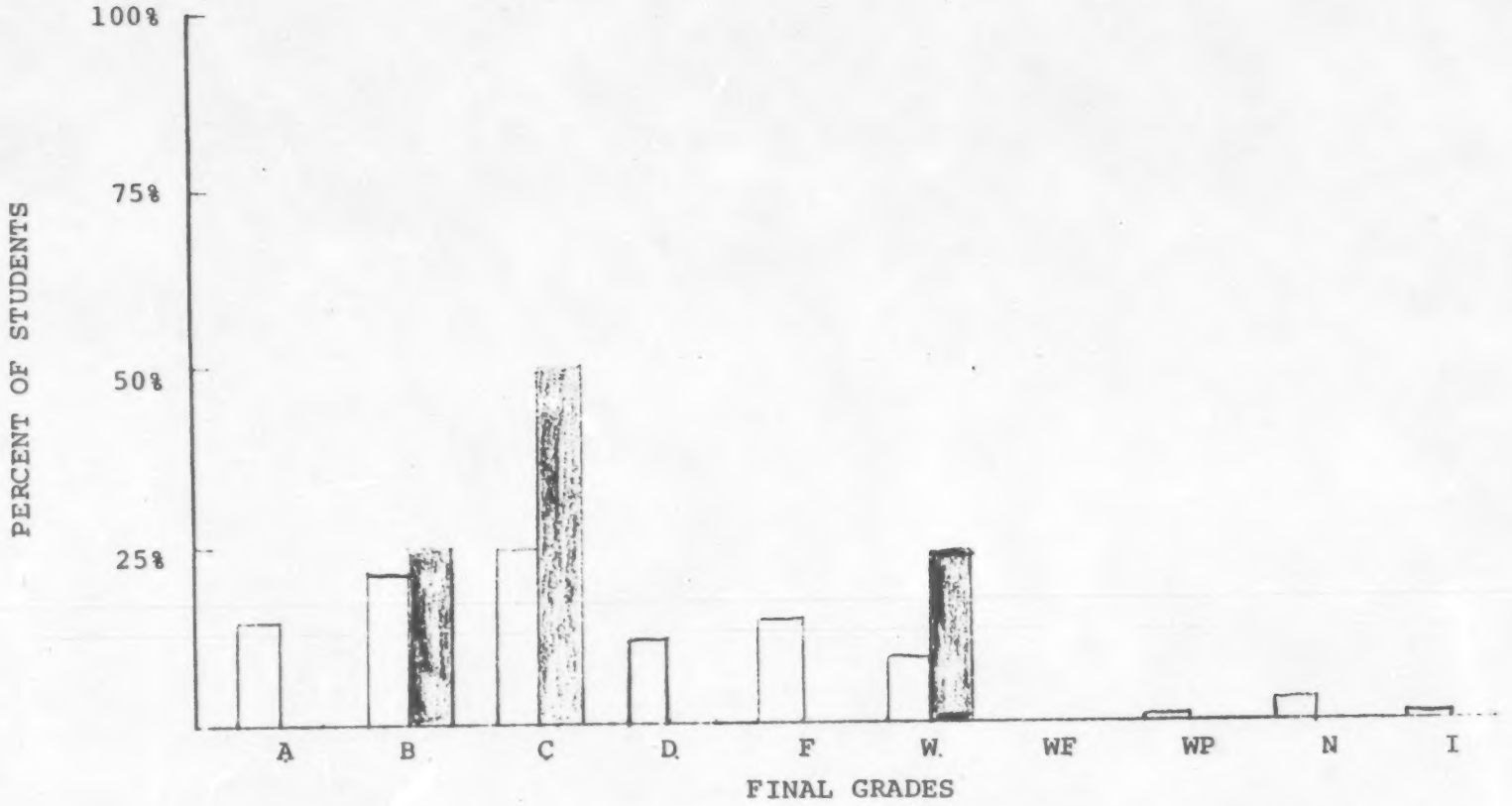
W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 28.

SPRING 1982

SEMESTER PERFORMANCE RESULTS:
TOTAL ENROLLMENT COMPARED TO TUTORED STUDENTS

Introduction to Sociology I (SOC 121)




- Non-Tutored
- Tutored

W = Withdrawal From Course--
No Evaluation
WP = Withdrawal - Passing
WF = Withdrawal - Failing
N = Not Evaluated
I = Incomplete

FIGURE # 29.

4. Dissemination Activities Planned and/or Implemented

COPS final project report will be sent to the New Jersey Department of Education's Division of Vocational Education and Career Preparation.

Copies will be forwarded to the offices of deans of students at all the New Jersey community and state colleges, and the New Jersey Department of Education's Vocational Resource Center in Edison, New Jersey.

5. Strategies or Activities Employed to Eliminate Sex Bias and Sex Role Stereotyping

Project COPS addressed sex bias and sex role stereotyping in a variety of ways. Of the forty-nine tutors hired, 28 were females. Of these women tutors, twenty-two were enrolled in traditional male curricula: engineering technology, accounting and math. The tutors in general studies, Social Sciences and Humanities, were both male and female. Tutors for biology and other sciences, particularly related to the Nursing curriculum, were both male and female to avoid sex role stereotyping.

Effort was made to provide role-model identification in all areas to enhance the "mentor" effect. By constant interchange within the Tutoring Center environment, tutees were exposed to successful senior students of both sexes avoiding stereotyping as much as possible.

C. Summary

Conclusions and Recommendations

Project COPS attempted to reduce attrition and improve the Grade Point Average (GPA) among the high-risk student population by offering both remediation and advisement with an emphasis on positive role-model identification. As an Exemplary and Innovative Project, the program examined practical methods of enhancing students' education experiences to increase their chances of success with their vocational objectives.

Two hundred and fifty students received assistance during the year with varying amounts of remediation. Some freshmen visited the Center every few days and some dropped in only once or twice for help in a particular area. The opportunity to use either or both procedures seemed welcome and non-threatening to the students seeking contact.

As designed, the project allowed the tutors to provide a variety of services to the tutees. Trained to be knowledgeable about campus services such as the Writing Center, Job Placement, Study Skills Workshops, etc., they were empathetic listeners willing to help "connect" the freshmen to other aspects of the College. The continuous activity in the Tutoring Center and the anecdotal information collected gave concrete proof of the positive response to the program.

The statistical comparison of grades and completion rate between tutored students and the total course enrollment shows positive results in most cases. When one considers that the population receiving help were potentially high-risk students, their success rate is significant. Tutees with poor basic skills, cultural disadvantages and/or a lack of definite goals gained greatly from personal, friendly involvement with bright, career-oriented peers. The Tutoring Center provided this positive contact often not readily available at a commuting college.

An important secondary benefit of Project COPS was the immense value tutoring was to the tutors. They had a chance

to learn inter-personal skills, meet a diverse population, review subject matter, grow into their "mentor" role and earn a salary while being of service to others.

An additional development occurred during the course of the school year. As the Tutoring Center's reputation grew, it became a comfortable place for students to visit seeking help of various kinds such as curriculum information and job sources in addition to math remediation, etc. The relaxed atmosphere encouraged a free flowing interchange between seniors and freshmen. Of particular interest was the sharing of job interview skills, an on-going activity for the tutors and a future need for the tutees.

The value of peer contact is difficult to measure scientifically. Project COPS' statistical findings seem to show a relationship between remediation/advisement and grades. Certainly by observation and correlation of anecdotal information, it is evident that this type of program is needed and should continue and should expand. Limiting the tutoring service to full-time freshmen and to a specific population of high-risk students was a constant source of disappointment to the many other first and second year students seeking remediation and vocational information. This program should be offered on a college-wide basis.

The stimulus to the college community due to the program is an area that needs further exploration. Increased curiosity and interest by the faculty developed throughout the year. Publicity and word-of-mouth information brought an awareness of what was being attempted. Faculty members referred students for both tutoring and to be tutors. Any increased involvement by the college faculty would add to the students' chances to feel at home and to succeed in the school environment.

The tremendous potential of the successful students' "know how" needs to be investigated and exploited. Utilizing the energy, experience and confidence acquired by career-oriented students in a practical, transferrable manner would be of enormous benefit to the rest of the student body. Expansion of the program should move in this direction.

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# APPENDIX

# APPENDIX A

FRESHMAN TUTORING CENTER
LIBRARY (LOWER LEVEL)

***JUNE***

| MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY |
|---|---|---|---|---|
| | 1<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201<br>MAT 121<br>SOC 121 | 2<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201<br>MAT 121<br>SOC 121 | 3<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201<br>MAT 121<br>SOC 121 | 4<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201<br>MAT 121<br>SOC 121 |
| 7<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201,<br>MAT 121, SOC 121 | 8<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201,<br>MAT 121, SOC 121 | 9<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201,<br>MAT 121, SOC 121 | 10<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201,<br>MAT 121, SOC 121 | 11<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201<br>MAT 121<br>SOC 121 |
| 14<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201,<br>MAT 121, SOC 121 | 15<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201,<br>MAT 121, SOC 121 | 16<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201,<br>MAT 121, SOC 121 | 17<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121<br>12:15-2:15 pm<br>PSY 121, 223<br>ENG 121, 122<br>CSC 100, 109<br>ECO 201,<br>MAT 121, SOC 121 | 18 |
| 21<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121 | 22<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121 | 23<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121 | 24<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121 | 25 |
| 28<br>9:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121 | 29<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121 | 30<br>8:30-9:45 am<br>BIO 111, 123<br>CHM 010, 123<br>PHY 121 | | |

BIO 111 - Human Anat. & Phys. I
BIO 123 - General Biology I
CHM 010 - Basic Chemistry
CHM 123 - General Chemistry I
CSC 100 - Intro. Bus. Data Processing
CSC 109 - Basic Basic
ECO 201 - Prin. of Economics I
ENG 121 - English I
ENG 122 - English II
MAT 121 - Finite Mathematics
PHY 121 - General Physics I
PSY 121 - Psychology I
PSY 223 - Child Psychology
SOC 121 - Sociology I

APPENDIX B

LAST NAME_____

PROJECT COPS
MCC
STUDENT/TUTOR APPLICATION

Please Print

1. Full Name _____ Phone _____
2. Address _____ Zip _____
3. Social Security # _____
4. Curriculum _____
5. Birth Date _____
6. Second Language _____
7. Date Started at MCC _____
8. GPA as of August 1981 _____
9. Subjects you are qualified to tutor: _____

   _____
10. Faculty reference (from recent course in field you wish to tutor):

    Name _____ Subject _____

    Name _____ Subject _____

    Name _____ Subject _____
11. Previous tutoring or related experience: _____

    _____
12. Number of hours available each week: _____
13. Current employment: _____

    Place _____ No. Hours Per Week _____
14. On reverse side please write your reasons for wishing to participate in the program and any special qualifications that you have for successful student tutoring.

Please return to:
Mrs. Thomas
Library Tutoring Center
Extension 455

APPENDIX C

PROJECT COPS: CAREER-ORIENTED PEER SERVICES
CONFIDENTIAL RECOMMENDATION FOR TUTORS

NAME OF STUDENT: _____

DATE: _____ CURRICULUM: _____

Able to tutor the following courses: _____

_____

Scholastic Abilities:

___Excellent ___Above Average ___Average ___Cannot Evaluate

Comments: _____

_____

Knowledge and Competency in Field of Study:

___Excellent ___Above Average ___Average ___Cannot Evaluate

Communication Skills:

Written: ___Excellent ___Above Average ___Average ___Cannot Evaluate

Oral: ___Excellent ___Above Average ___Average ___Cannot Evaluate

Initiative: _____

Reliability: _____

Capacity to Work With Others:

___Excellent ___Above Average ___Average ___Cannot Evaluate

Overall Maturity:

___Excellent ___Above Average ___Average ___Cannot Evaluate

Additional Comments: _____

_____

Capacity in which you are familiar with this student:

Title: _____ Signature: _____

Date: _____

Please return to E. Thomas
Project COPS
Library
Extension 455

Duplicate this form as needed or additional forms available on request.

APPENDIX D

LAST NAME_____

PROJECT COPS*
MCC
STUDENT INFORMATION FORM

Please Print

Name _____ Phone _____

Address _____ Zip _____

Social Security # _____

Curriculum _____

Birth Date _____

ESL _____

Date Started at MCC _____

Number of Credits This Semester _____

Referred by _____

Would like tutoring in the following area(s)

Course _____ Section _____ Instructor _____
Course _____ Section _____ Instructor _____

Comments _____

_____

_____

Please return to:
Mrs. Thomas
Library Tutoring Center
Extension 455

*Career Oriented Peer Service
Program Requirements: Full-time, first semester students enrolled in A.A.S. degree programs

daj 5399B

APPENDIX E

MIDDLESEX COUNTY COLLEGE

TUTORING PROGRAM

STUDENT_____ SS#_____

SEMESTER_____

The above named student was enrolled in your_____ and had some contact with a peer tutor from the CAREER-ORIENTED PEER SERVICES PROGRAM. We are very interested in the academic progress of the students who have received any help through this program. Would you please complete this brief evaluation and return it to me in the Library Tutoring Center? Any additional comments would be greatly appreciated. Thank you.

1. Has completed the course: Yes_____No_____
2. Attendance: Good_____Fair_____Poor_____
3. Class participation: Good_____Fair_____Poor_____
4. Quality of assignments: Good_____Fair_____Poor_____
5. Attitude: Good_____Fair_____Poor_____
6. Do you think the student benefited from the tutoring program?

   _____

   _____

7. Comments:_____

   _____

   _____

Ellen Thomas

Library Tutoring Center (Ext. 455)

APPENDIX F

MIDDLESEX COUNTY COLLEGE

CAREER-ORIENTED PEER SERVICES

PROGRESS REPORT

STUDENT'S NAME: _____

TUTOR'S NAME: _____

DATE: _____ SUBJECT: _____

MATERIAL COVERED: _____

_____

_____

COMMENTS: _____

_____

_____

_____

_____

OTHER STUDENTS AT SESSION: _____

_____

SCHEDULED OR UNSCHEDULED: _____

APPENDIX G

MIDDLESEX COUNTY COLLEGE PROJECT COPS TIME SHEET

LAST NAME _____ PAY PERIOD _____

| NAME OF TUTEE | DATE | HOURS | SUBJECT | SIGNATURES |
|---|---|---|---|---|
| 1. | | | | TUTOR<br>TUTEE |
| 2. | | | | TUTOR<br>TUTEE |
| 3. | | | | TUTOR<br>TUTEE |
| 4. | | | | TUTOR<br>TUTEE |
| 5. | | | | TUTOR<br>TUTEE |
| 6. | | | | TUTOR<br>TUTEE |
| 7. | | | | TUTOR<br>TUTEE |
| 8. | | | | TUTOR<br>TUTEE |
| 9. | | | | TUTOR<br>TUTEE |

MIDDLESEX
COUNTY COLLEGE
PRESENTS

# A FRESHMAN TUTORING PROGRAM

CAREER-ORIENTED
PEER SERVICES

## DO YOU...

Need tutoring?
Want to improve skills?
Have questions about curriculum?

## ARE YOU...

A first-year student?
Enrolled full time?
In an A.A.S. degree program?

## CAN YOU?

Visit the tutoring center?
Fill out a registration form?
Devote some time each week?

# Middlesex County College Wants You to Succeed

Contact:
Mrs. Thomas
Library Tutoring Center
548-6000, Ext. 455

Funded by Division of Vocational Education and Career Preparation, N.J. Dept. of Ed.

MIDDLESEX
COUNTY COLLEGE
PRESENTS

# COPS

CAREER-ORIENTED
PEER SERVICES

## DO YOU...

Need tutoring?
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